

Section 5 – Final Section 4(f) Evaluation

5.1 Introduction

Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 USC 303) states that:

“(a) It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

(b) The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities.

(c) The Secretary may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if -

(1) there is no prudent and feasible alternative to using that land; and

(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

The FHWA Section 4(f) regulations (23 CFR 771.135) state that:

“(d) Where Federal lands or other public land holdings (e.g., State forests) are administered under statutes permitting management for multiple uses, and, in fact, are managed for multiple uses, section 4(f) applies only to those portions of such lands which function for, or are designated in the plans of the administering agency as being for, significant park, recreation, or wildlife and waterfowl purposes. The determination as to which lands so function or are so designated, and the significance of those lands, shall be made by the officials having jurisdiction over the lands. The Administration will review this determination to assure its reasonableness. The determination of significance shall apply to the entire area of such park, recreation, or wildlife and waterfowl refuge sites.

(e) In determining the application of section 4(f) to historic sites, the Administration, in cooperation with the applicant, will consult with the State Historic Preservation Officer (SHPO) and appropriate local officials to identify all properties on or eligible for the National Register of Historic Places (National Register). The section 4(f) requirements apply only to sites on or eligible for the National Register unless the Administration determines that the application of section 4(f) is otherwise appropriate”

Section 4(f) applies to existing park, recreation and wildlife resources and also to planned resources if the agency that owns the property has formally designated the property for one or more of these uses. Historic, archaeological, or cultural sites are also considered Section 4(f) resources if they are included on or eligible for nomination to the National Register of Historic Places (NRHP).

According to the FHWA regulations (23 CFR 771.135(p)), a Section 4(f) “use” occurs:

- “(1)(i) When land is permanently incorporated into a transportation facility.
 - (ii) When there is a temporary occupancy of land that is adverse in terms of the statute’s preservationist purposes as determined by the criteria in paragraph (p)(7) of this section; or
 - (iii) When there is a constructive use of land.
- (2) Constructive use occurs when the transportation project does not incorporate land from a section 4(f) resource, but the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features or attributes of the resource are substantially diminished.”

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), is relevant to the analysis of Section 4(f) impacts because it leads to the identification of the historic properties that are subject to Section 4(f) protection.

To meet the federal requirements, a cultural resources survey must be conducted to identify, inventory, and evaluate historic properties and other cultural resources for eligibility to the NRHP.

As part of the 11400 South FEIS and Section 4(f) process, a records search was conducted to identify what corridors within the study area had been previously inventoried and to identify potentially eligible architectural and archaeological properties previously recorded within the study area. Subsequent to the records search, a reconnaissance level cultural resources survey of the remaining corridors that could be affected by the proposed action was conducted. The cultural findings are documented in the

11400 South EIS Project, Salt Lake County, Utah: Results of a Selective Reconnaissance Architectural Survey Report (URS 2004a) and the 11400 South EIS Project, Salt Lake County, Utah: Results of an Intensive Archaeological Survey Report (URS 2004b).

The cultural resources reports were forwarded to the Utah State Historic Preservation Office (SHPO) for their review. Consultation with the SHPO on historic property eligibility and effect from a proposed action is required through a Determination of Eligibility and Finding of Effect (DOE/FOE) document. This document has been prepared by UDOT and approved by the SHPO (see Appendix D – September 22, 2003 letter from UDOT to SHPO, with SHPO approval received November 9, 2004). The properties determined by the DOE/FOE document to be eligible for listing on the NRHP are subject to Section 4(f) protection and thus are included in this 4(f) evaluation.

This evaluation describes the proposed action and study area and identifies and evaluates alternatives to avoid the Section 4(f) resources that would be used by proposed transportation improvements; describes the measures that could be taken to avoid and minimize impacts to these resources; and assesses which of the FEIS alternatives (taking into account avoidance and minimization measures) would have least net harm to Section 4(f) resources.

5.2 Proposed Action

UDOT and FHWA are proposing improvements to the transportation network in the southern Salt Lake Valley. Existing and future traffic congestion have been identified as an issue in the study area, which is the area bounded by 10400/10600 South on the north, 700 East on the east, 12300/12600 South on the south, and Bangerter Highway on the west (Figure 5-1).

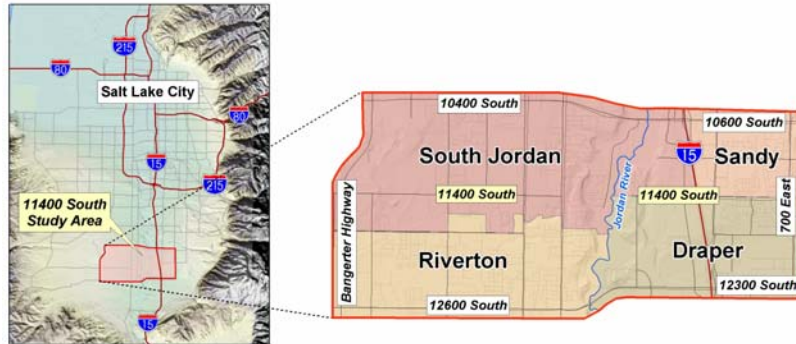


Figure 5-1. Study Area in Relation to Salt Lake Valley

As discussed in Section 1, the purpose of the project is to maintain, protect, and improve the quality of life in the study area by improving mobility and providing transportation infrastructure to support economic development within the study area through the year 2030.

Ten Build Alternatives were initially analyzed for this FEIS, as well as a Transit-Only Alternative and the No Build Alternative. The major components of these alternatives are summarized below. All of the east-west roadway widenings included in the various Build Alternatives would extend from I-15 to Bangerter Highway, and include an additional center turn lane or median, unless otherwise indicated. The complete description of each alternative considered is included in Chapter 2.

The **No Build Alternative** assumes that all the projects currently on the Wasatch Front Regional Council's Long Range Plan will be completed, except for the interchange at 11400 South and I-15 and the new river crossing and widening of 11400 South from I-15 to Bangerter Highway.

Alternative 1 includes widening 10400/10600 South to six lanes, widening 11400 South to four lanes and adding a river crossing,

widening 12300/12600 South to six lanes, adding over/under passes of I-15 at 11000 South and 11800 South, and widening State Street to six lanes from 12300 South to 11400 South.

Alternative 2 includes widening 10400/10600 South to six lanes, widening 12300/12600 South to six lanes, and adding an interchange at I-15 and 11400 South.

Alternative 3A includes widening 10400/10600 South to six lanes, widening 12300/12600 South to six lanes, widening Jordan Gateway/Lone Peak Parkway to six lanes, and adding over/under passes of I-15 at 11000 South and 11800 South.

Alternative 3B includes all the components of Alternative 3A, plus making Bangerter Highway a six-lane freeway facility and making the proposed Mountain View Corridor a 10-lane facility.

Alternative 3C includes all the components of Alternative 3A, plus making the proposed Mountain View Corridor a 10-lane facility.

Alternative 4 includes widening 10600 South to six lanes from Jordan Gateway to River Front Parkway, adding an interchange at I-15 and 11400 South, and widening 11400 South to four lanes from I-15 to Bangerter Highway with a new river crossing.

Alternative 5 includes widening 10600 South to six lanes from Jordan Gateway to just west of Redwood Road, adding an interchange at I-15 and 11400 South, widening 11400 South to four lanes on the east side of the Jordan River, then crossing the river and joining the roadway to 11800 South on the west side of the river and widening to four lanes.

Alternative 6 includes a one-way frontage road system parallel to I-15 and realigning State Street, widening 11400 South to four lanes and adding a new river crossing, and widening 10600 South to six lanes from Jordan Gateway to just west of Redwood Road.

Alternative 7 includes widening 10600 South to six lanes from Jordan Gateway to just west of Redwood Road, and widening 11400 South to four lanes and adding a river crossing.

Alternative 8 is a transit-only alternative that includes additional bus service, bus routes, and park-and-ride facilities.

Alternative 9 included a one-way frontage road system parallel to I-15 and realigning State Street, widening 10400/10600 South to six lanes, widening 12300/12600 South to six lanes, adding over/under passes of I-15 at 11000 South and 11800 South, making Bangerter Highway a six-lane freeway facility and making the proposed Mountain View Corridor a ten-lane facility.

Based on a review of the preliminary alternatives, several alternatives were eliminated from further consideration in the EIS and Section 4(f) Evaluation. The alternatives selection process is described in detail in Section 2, and is summarized below with an emphasis on Section 4(f) considerations. Section 4(f) requires the consideration of alternatives that would avoid Section 4(f) resources, but only if such alternatives are prudent and feasible. Alternatives that do not meet the purpose and need are not considered prudent.

Alternatives 2 and 8 were eliminated from further consideration because they did not improve mobility in the study area over the No-Build Alternative. Alternative 2 performed much worse than the No-Build Alternative, reporting 10 intersections at Level of Service E or worse. Alternative 8 added more transit improvements to the study area but still performed about the same as the No-Build Alternative.

Alternatives 6 and 9 were eliminated because the frontage road system improvements at the I-15/10600 South and I-15/12300 South interchanges actually made operations at these facilities operate worse than the No Build Alternative. The results were

poor for improving mobility since these locations process more traffic than any other intersections in the study area. Alternative 9 was also eliminated due to excessive relocations as discussed below.

Alternatives 3B, 3C, 5 and 9 were eliminated due to the excessive number of relocations necessary for improvements. None of the alternatives advanced in this FEIS resulted in more than 60 home relocations. Alternative 5 would go through an established residential neighborhood resulting in over 140 required relocations. As Alternatives 3B and 9 would widen Bangerter Highway, they would result in over 500 home and business relocations. Alternative 9 also includes widening Mountain View Corridor, as does Alternative 3C. Although the alignment for this corridor has not yet been established, the widening could result in several hundred additional relocations. As a result of excessive relocations and construction required for the widening of the proposed Mountain View Corridor (Alternatives 3B, 3C, and 9) and the widening of Bangerter Highway (Alternatives 3B and 9), these three alternatives also reported costs that were a factor of three to seven times more expensive than the average cost of the other Build Alternatives.

The four Build Alternatives advanced in this FEIS and Section 4(f) Evaluation are **Alternatives 1, 3A, 4, and 7**. These alternatives are shown in Figures 5-2 through 5-5, respectively.

As part of this Section 4(f) evaluation, if a Section 4(f) resource could not be avoided, all possible planning to minimize harm was incorporated into the Build Alternatives. These measures are discussed in Sections 5.5 and 5.6. The Preferred Alternative in this FEIS which has been determined to result in the least net harm to Section 4(f) resources is Alternative 4.

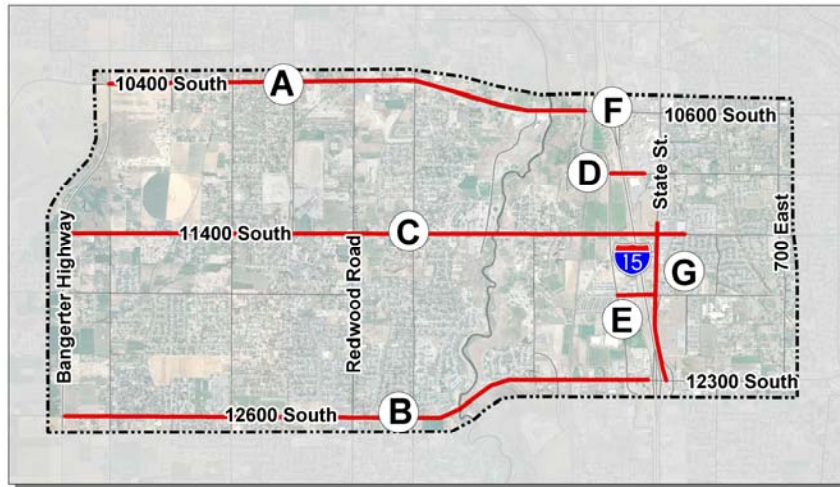


Figure 5-2. Alternative 1

- A. Widen 10400/10600 South to six lanes* from Bangerter Highway to Jordan Gateway.
- B. Widen 12300/12600 South to six lanes* from Bangerter Highway to Lone Peak Parkway.
- C. Add a river crossing at 11400 South and widen to four lanes. *
- D. Add I-15 underpass at 11000 South, extend to the west to Jordan Gateway.
- E. Add I-15 overpass at 11800 South, extend to the west to Lone Peak Parkway.
- F. Modifications to I-15 interchange at 10600 South – triple left turn lanes for southbound to eastbound traffic.
- G. Widen State Street to six lanes* from 12300 South to 11400 South.

* Plus an additional center turn lane or median

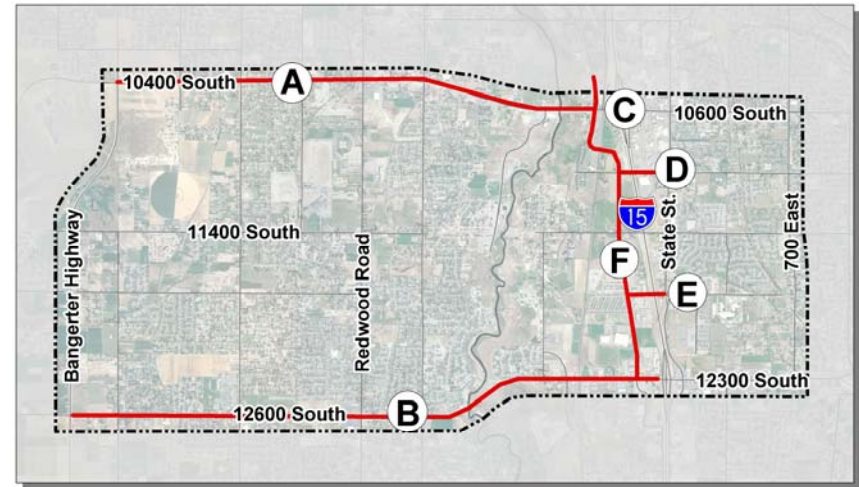


Figure 5-3 Alternative 3A

- A. Widen 10400/10600 South to six lanes* from Bangerter Highway to Jordan Gateway.
- B. Widen 12300/12600 South to six lanes* from Bangerter Highway to Lone Peak Parkway.
- C. Modifications to I-15 interchange at 10600 South – triple left turn lanes for southbound to eastbound traffic.
- D. Add I-15 underpass at 11000 South; extend to the west to Jordan Gateway.
- E. Add I-15 overpass at 11800 South; extend to the west to Lone Peak Parkway.
- F. Widen Jordan Gateway to six lanes* from 10600 South to 12300 South.

* Plus an additional center turn lane or median

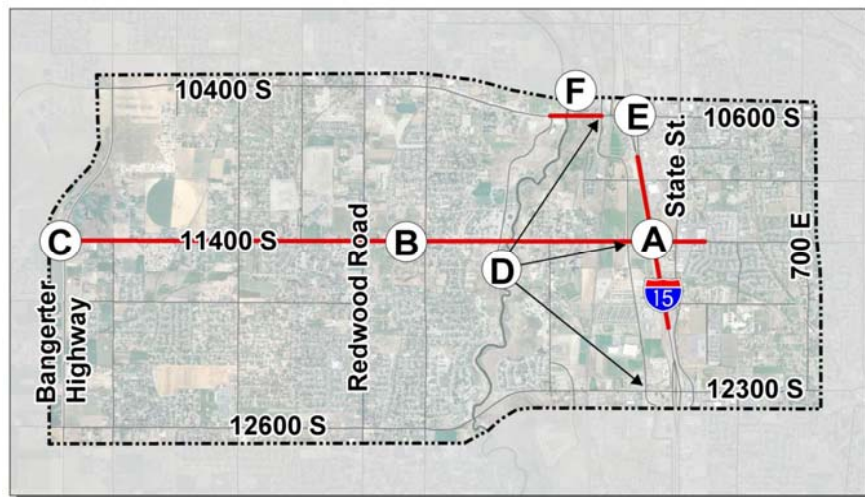


Figure 5-4 Alternative 4

- A. Add an interchange at 11400 South and I-15, with auxiliary lane on I-15 northbound and I-15 southbound between 11400 South and 10600 South.
- B. Add a river crossing at 11400 South and widen to four lanes* from Bangerter Highway to State Street.
- C. Intersection improvements at 11400 South and Bangerter Highway.
- D. Intersection improvements on Jordan Gateway/Lone Peak Parkway at 10600 South, 11400 South, and 12300 South.
- E. Modifications to I-15 interchange at 10600 South – triple left turn lanes for southbound to eastbound traffic.
- F. Widen 10600 South to six lanes* from River Front Parkway to Jordan Gateway.

* Plus an additional center turn lane or median

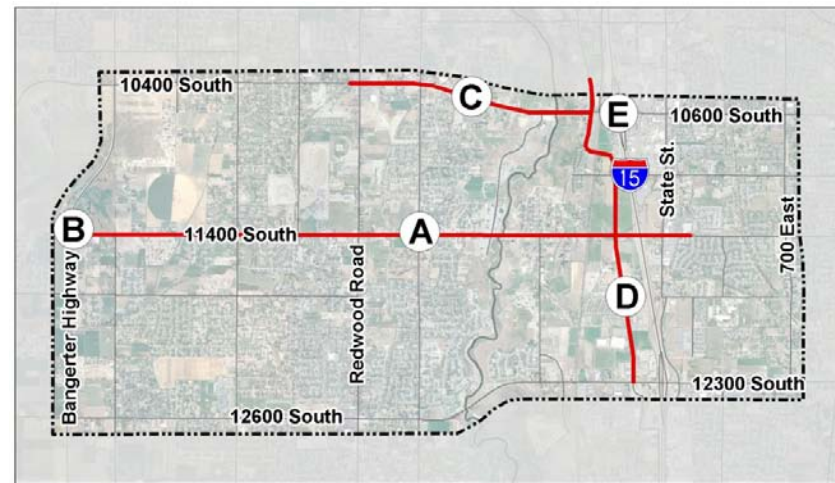


Figure 5-5 Alternative 7

- A. Add a river crossing at 11400 South and widen to four lanes* from Bangerter Highway to State Street.
- B. Intersection improvements at 11400 South and Bangerter Highway.
- C. Widen 10600 South to six lanes from just west of Redwood Road to Jordan Gateway.
- D. Widen Jordan Gateway/Lone Peak Parkway to six lanes* from 12300 South to 10600 South.
- E. Modifications to I-15 interchange at 10600 South – triple left turn lanes for southbound to eastbound traffic.

* Plus an additional center turn lane or median

5.3 Section 4(f) Resources

The Section 4(f) resources located within the study area along any potentially affected roadway corridors are discussed in this section. The Section 4(f) public park, recreation, and wildlife properties are presented first, followed by Section 4(f) historic properties. These resources are shown on Figure 5-6.

5.3.1 Public Park, Recreation, and Wildlife Properties

The Section 4(f) park, recreation, and wildlife resources located within the study area along any of the potentially affected roadway corridors are summarized in Table 5-1. The impacts to each of these resources, by alternative, are discussed in Section 5.4, *Impacts to Section 4(f) Resources*.

Table 5-1.
Section 4(f) Public Park, Recreation, and Wildlife Resources

Resource	Location/Address	Alternative
Jordan River Parkway and Trail	44-mile linear parkway and bike/pedestrian path along the Jordan River, with portions incomplete in some areas	1, 3A, 4, 7
URMCC Habitat Restoration Project	East side of the Jordan River from 9800 South to 11000 South	1, 3A, 4, 7
10600 South Class 1 Bicycle Trail	North side of 10600 South along sidewalk, 1300 West to Jordan River	1, 3A, 4, 7
Willow Creek Park	Planned park at approximately 540 West 11400 South	1, 4, 7
Salt Lake County Equestrian Park	2051 West 11400 South	1, 4, 7

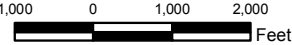
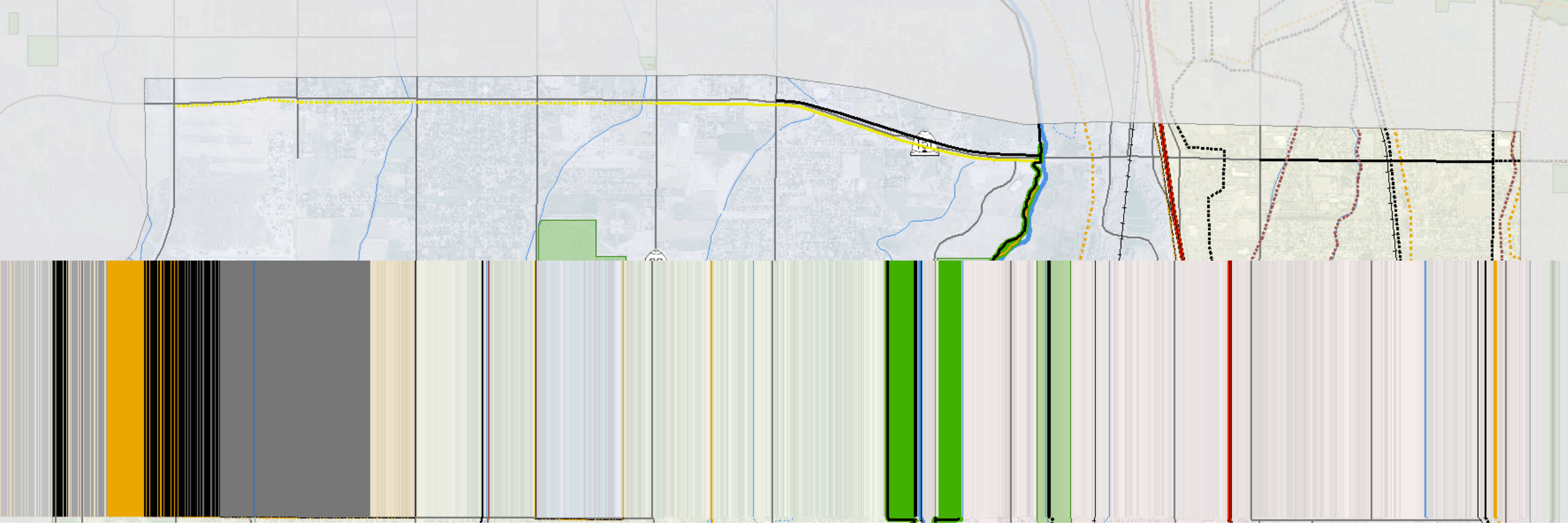
Table 5-1. (cont.)

Section 4(f) Public Park, Recreation, and Wildlife Resources

Galena Hills Community Park	Planned park at approximately 12400 South and 550 West	1, 3A
Jordan River Rotary Park	East side of the Jordan River immediately north of 12300 South	1, 3A
I-15 Wetland Mitigation Site/ Wildlife Preservation Area	East side of the Jordan River and south side of 12300/12600 South	1, 3A
Riverton Skate Park	1450 West 12600 South	1, 3A

South Jordan Elementary School is located at 1350 West 10400 South. This property is owned by South Jordan, but the public school has been closed and the building is being rented out to a private school and is scheduled for demolition. Since publication of the draft EIS, the baseball diamond and three basketball courts on the premises have been razed, the property is being cleared and readied for private development and there are no public recreation facilities available. This property is no longer considered a Section 4(f) recreational resource.

Bingham High School is located at 2160 West 10400 South. The school property includes 4.2 acres for school sports and activities. There are four tennis courts, a baseball diamond, a soccer/football field, and a ¼-mile running track on the premises. Because these facilities are for school use only and not open to the general public, this is not considered a Section 4(f) resource.



5.3.1.1 Jordan River Parkway and Trail

General Setting

The Jordan River flows north approximately 44 miles from Utah Lake (near the community of Lehi) to the Great Salt Lake, passing through 15 different municipalities. The river is on average 40 feet in width and serves as home for birds and wildlife. Through a cooperative effort, a nearly continuous corridor on each side of the river has been preserved as open space known as the Jordan River Parkway. A multi-use trail system is planned to eventually run the length of the river. The vision of the Jordan River Parkway Trail is to connect the Great Salt Lake and Utah Lake with a series of educational, recreational, and scenic opportunities. There is some use of the Jordan River for canoeing or kayaking.



Jordan River Parkway Trail

Roadway bridges currently span the river in the southern Salt Lake Valley at 14600 South, Bangerter Highway (13800 South), 12300 South, 10600 South, 9800 South, 9000 South, and 7800 South. Of the above bridges, only the 10600 South and 12300 South bridges are within the project study area. There is also a pedestrian bridge within the study area at 12300 South.

Parkway Jurisdiction and Public Ownership

The Utah Division of Parks and Recreation is the successor agency to the Provo-Jordan River Parkway Authority. In that capacity the Division has the authority to establish and coordinate programs for the development of recreational areas, water conservation, flood control, and wildlife conservation in the flood plain of the Jordan River. The Division also has the authority to regulate and control other types of development in the Jordan River flood plain. See UCA 63-11-17.5. For purposes of exercising these authorities, which apply regardless of property ownership, the Division generally construes the flood plain to extend 150 feet from the riverbank on each side of the river. The State of Utah also owns land along the Jordan River for much of its length. When State ownership extends beyond 150 feet from the River, the Division's authorities also extend to those lands.

While development of the Parkway trail system and any parks and recreational facilities along the river is coordinated by and under the jurisdiction of the Division of Parks and Recreation, each municipality also has jurisdiction over trail segments and other parks and recreation facilities within its boundaries. There is not a consistent funding source for Parkway development or facility improvements so improvements are made as state, local, or private funds become available. The Division works closely with the local communities that are willing to contribute funds to develop Parkway facilities to make sure the facilities are compatible with the Parkway goals and are an asset to the

community. Within the study area, the Jordan River passes through South Jordan, Draper, and Riverton (approximately 3.2 miles), and each city owns some land along the River. Through this area, the Jordan River Parkway trail has largely been completed, primarily on publicly owned land, except for a section between approximately 11450 South and 11800 South.

Figures 5-7a and 5-7b indicate those properties adjacent to the Jordan River within the study area that are owned by the State, the cities of South Jordan, Draper, or Riverton, Salt Lake County, or the United States. As previously indicated, one criterion that is necessary for a recreational or wildlife property to be considered a Section 4(f) resource is that it be publicly owned.

Section 4(f) Parkway Resources on State Land

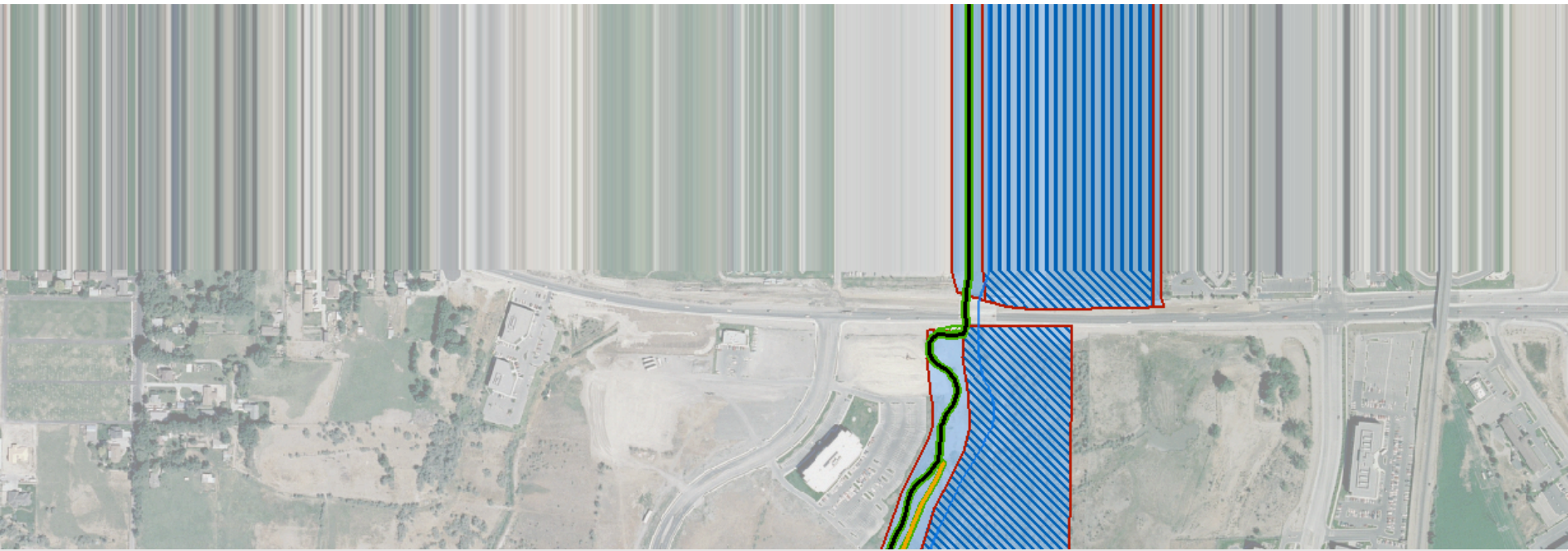
Utah Code (UCA 63-11-17(3)) provides that “the Division of Parks and Recreation shall permit multiple use of state parks and property controlled by it for such purposes as grazing, fishing and hunting, mining, and the development and utilization of water and other natural resources.” As cited previously, the FHWA regulations (23 CFR 771.135(d)) state that “where Federal lands or other public land holdings (e.g., State forests) are administered under statutes permitting management for multiple uses, and, in fact, are managed for multiple uses, section 4(f) applies only to those portions of such lands which function for, or are designated in the plans of the administering agency as being for, significant park, recreation, or wildlife and waterfowl purposes.”

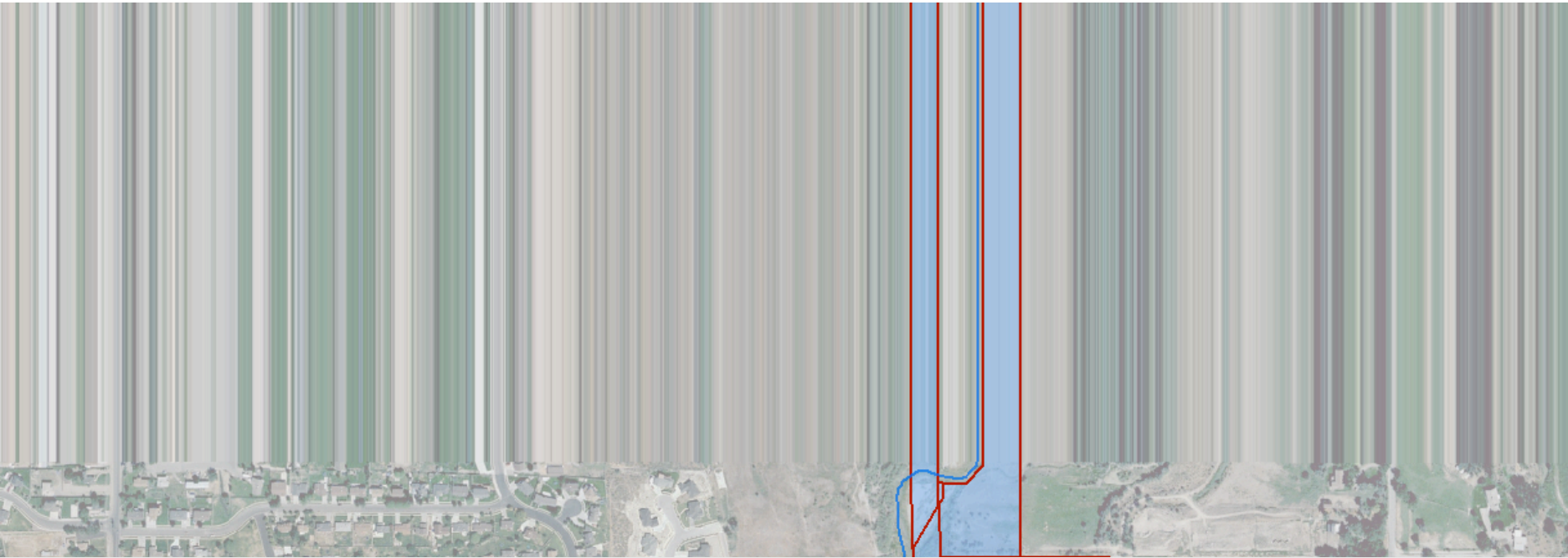
The Division of Parks and Recreation has determined that the land it owns along the Jordan River is indeed managed for multiple uses, and that within the study area, the only portions of those lands that the Division considers to be significant for recreation or park purposes, and thus subject to Section 4(f), are the lands currently occupied by, or planned for occupation by, the bicycle/pedestrian trail, the equestrian trail, and developed park

and recreation areas. More specifically, the resources along the Jordan River that are subject to Section 4(f) protection, in those places where they occupy state-owned lands, are (1) the existing and planned pedestrian and bicycle trails on the east and west side of the River between 10600 South and 12600 South (a 12’ trail width except where there are rest area or kiosk nodes, in which case the area of the node is also part of the Section 4(f) resource), (2) the Midas Pond fishing area (approximately 11200 South), and (3) the River Front Park (approximately 11000 South). (See September 28, 2004 letter from Division of Parks and Recreation in Appendix D). These resources are shown in Figures 5-6, 5-7a and 5-7b.

Section 4(f) Parkway Resources in Draper

Draper City has established a trailhead at 12300 South, on the east side of the Jordan River, associated with the Jordan River Rotary Park. A bicycle/pedestrian/equestrian trail extends north from the trailhead on the east side of the river to approximately 11800 South, and there is also a spur from the trailhead to the west that crosses an historic bridge and joins with a trail on the west side of the river in Riverton. Under the Draper City Parks, Trails and Recreation Master Plan the existing trail on the east side of the river will be extended north from 11800 South to 11400 South, with a grade-separated crossing of the planned 11400 South roadway. The extension of 11400 South to the Jordan River is identified in the Draper City Master Transportation Plan. According to the Draper trails committee, the trail extension will be accomplished in Spring 2005. The trailhead, the Rotary Park (discussed in more detail below), and sections of the existing and planned riverside trails are located on land owned by Draper City and are considered to be Section 4(f) resources. They are identified in Figures 5-6, 5-7a and 5-7b.





Section 4(f) Parkway Resources in South Jordan

South Jordan City adopted the South Jordan Riverway Park Master Plan in 1992, which applies to development of riverside park and trail facilities and preservation of open space from approximately 9800 South to 11800 South. The City, in conjunction with the Division of Parks and Recreation, has since developed a significant portion of the riverside park and trail facilities under the Master Plan. In the study area this includes Midas Pond and Park on the west side of the river at approximately 11200 South, River Front Park on the west side of the river at approximately 11100 South, and a bicycle/pedestrian trail and an equestrian trail on the west side of the river from approximately 10600 South to just south of 11400 South. Under the Master Plan, these trails will eventually extend south to tie in to the existing trail in Riverton at 11800 South. These parks and trails are located on land owned by South Jordan (or the state) and are considered Section 4(f) resources. They are identified in Figures 5-6, 5-7a and 5-7(b). The Riverway Park Master Plan includes the 11400 South roadway corridor and river crossing and has no plans for developed park facilities in that immediate area other than the trails. The Plan includes a pedestrian bridge across the river at approximately 11200 South. Under Alternatives 1, 4, and 7, this bridge would be relocated to 11400 South and incorporated into the new road crossing there.

Section 4(f) Parkway Resources in Riverton

Riverton City borders on the west side of the Jordan River in the study area from 12600 South to 11800 South. The only developed section of the Jordan River Parkway trail in Riverton begins at the pedestrian bridge north of 12600 South, which connects the Riverton and Draper trails, and continues north to approximately 11800 South. For approximately half that distance the trail is on public land owned by Riverton or Salt Lake County. This part of

the trail is considered to be a Section 4(f) resource and is identified in Figures 5-6, 5-7a and 5-7b.

5.3.1.2 URMCC Migratory Bird Habitat Restoration Project

The Utah Reclamation Mitigation and Conservation Commission (URMCC) owns property along the east side of the Jordan River from 9800 South to 11100 South. This property is being restored and will be managed for wildlife as part of a migratory bird habitat restoration project. There will be limited pedestrian access. The URMCC considers this a wildlife preservation area. Therefore this land is considered a Section 4(f) resource. (See Figures 5.6, 5-7a and 5-7b.)

5.3.1.3 10600 South Class 1 Bicycle Trail

A Class 1 paved, 10-foot-wide bicycle path was constructed in South Jordan as part of the widening and improvements to 10600 South that were constructed between 2001 and 2003. This path is on the north side of 10600 South, adjacent to the sidewalk, and extends from 1300 West to the Jordan River. A Class 1 bicycle path is primarily used for recreational purposes. It is separated from the roadway and is typically 8 to 12 feet wide. A Class 1 bicycle path is generally shared by pedestrians, skaters, joggers, and bicyclists, and is considered to be a Section 4(f) resource. (See Figure 5.6.)

5.3.1.4 Willow Creek Park

Willow Creek Park is planned for future construction by Draper City on approximately 70 acres of city-owned land just west of 540 West 11400 South (south side of the road). UDOT deeded 3.86 acres to Draper City with the understanding that a detention basin would be constructed on the land to hold runoff water and groundwater associated with any possible improvements to 11400 South. Draper City agreed that part of the property would be deeded back to UDOT if 11400 South were widened (see March

5, 2004 letter from Draper City in Appendix D). The remainder of the property, along with additional adjacent property acquired by Draper, is planned as a linear parkway with a non-motorized trail. With the exception of the 3.86 acre site of the detention basin, this planned Park is considered to be a Section 4(f) resource. (See Figure 5.6.)

5.3.1.5 Salt Lake County Equestrian Park

The 120-acre Salt Lake County Equestrian Center is located on city-owned land at 2051 West 11400 South in South Jordan. The Equestrian Center is a racing, training, and show facility open to the public and has a 0.75-mile track, 200 stalls for year-round boarding, 300 stalls for show boarding, five outdoor arenas, and a polo field bordered by mature trees. The Equestrian Center is considered to be a Section 4(f) resource. (See Figure 5.6.)

5.3.1.6 Galena Hills Community Park

Galena Hills Community Park is planned for future construction by Draper City. The 60-acre park which is owned by Draper City will be located directly west of the UPRR tracks on the south side of 12300 South from approximately 550 West to 450 West. The park will include baseball and softball diamonds, basketball courts, volleyball courts, tennis courts, soccer/football fields, playgrounds, and picnic areas. Construction of the park facilities is scheduled to begin in 2005. This planned park is considered to be a Section 4(f) resource. (See Figure 5.6.)

5.3.1.7 Jordan River Rotary Park

The Jordan River Rotary Park is a 10.3-acre park owned by Draper City and located along the Jordan River and 12300 South. The park currently consists of a trail head, parking lot, and restroom. The trail/trail head was developed in part with State funds under the provision that it would not be converted to other than public recreational trail use unless another trail of

comparable value, in the same general location, is provided. An irrigation system has been installed and trees planted. Future plans for the park include a playground, volleyball courts, basketball courts, picnic facilities, a fishing dock, a canoe launch, and equestrian parking facilities. This park is considered to be a Section 4(f) resource.

5.3.1.8 I-15 Wetland Mitigation Site/Wildlife Preservation Area

This 81-acre property is located on the east side of the Jordan River and the south side of 12300/12600 South. The URMCC has jurisdiction over this property which was used, in part, for wetland mitigation for the expansion of the I-15 corridor through Salt Lake County, and to enhance avian and terrestrial wildlife use of the area (URMCC, 2002). URMCC owns and manages this site as a wildlife preserve and thus it is considered a Section 4(f) resource.

5.3.1.9 Riverton City Skate Park

This skate park, currently under construction, is located at 1450 West 12600 South on city-owned property in Riverton. It is approximately 0.7 acres in size and will have berms, ramps, and other skateboarding amenities. This park is considered to be a Section 4(f) resource. (See Figure 5.6.)

5.3.2 Historic Properties

The Section 4(f) historic properties located within the study area along any potentially affected roadway corridors are summarized in Table 5-2. These properties were identified as being on or eligible for listing on the NRHP as part of the NHPA process, and thus are subject to Section 4(f) review and protection if they are used. The properties that may result in a Section 4(f) use are described further in Section 5.4.2 under impacts to historic resources. All the properties on Table 5-2 have been previously described in this FEIS in Section 3.11.3.

In addition to the NRHP criterion, as part of the Utah State Historic Preservation Officer (SHPO) procedures for reconnaissance surveys, additional eligibility ratings are applied to each property. The ratings are as follows:

A – Eligible. Built within the historic period and retains integrity; excellent example of a style or type; unaltered or only minor alterations or additions; individually eligible for National Register under criterion “C”; also buildings of known historical significance.

B – Eligible. Built within the historic period and retains integrity; good example of a style or type, but not as well-preserved or well-executed as “A”; buildings; more substantial alterations or additions than “A” buildings, though overall integrity is retained; eligible for National Register as part of a potential historic district or primarily for historical, rather than architectural, reasons.

C – Ineligible. Built during the historic period but has had major alterations.

D – Out of period. Constructed outside the historic period.

The residential and the single commercial structures listed in the table are considered historically significant because they reflect a type or period of architectural style and generally retain their historic integrity.

The Fairbourn Historic District is considered historically significant because these properties are representative of the late 19th and early 20th Century agrarian lifestyle and multigenerational family farms, and for its association with William Fairbourn, a locally prominent member of the community of Crescent and the Church of Jesus Christ of Latter-day Saints. Portions of the property in this historic district are currently for sale by the property owner(s).

The ditches and canals listed in the table are generally considered to be historically significant because of their association with the development of irrigation in the region, an important event in the settlement of the Salt Lake Valley. The Jordan and Salt Lake Canal was built to increase the potable water supply to Salt Lake City. The Galena Canal was built and used to provide water to copper and lead smelters in the Midvale area.

The Denver and Rio Grande Western Railroad, purchased by the Union Pacific Railroad (UPRR) has played a major role in the development of the Salt Lake Valley and is linked to major historically significant events.

For purposes of assessing and comparing the relative significance of impacts to historic resources, the local municipalities were asked to identify any of the eligible historic properties that have particular local significance to their communities. South Jordan identified three properties: the South Jordan Elementary School auditorium at 1350 West South Jordan Parkway, a house at 11395 South Redwood Road, and the “half house” at 11407 South 1300 West. Riverton City identified one property at 1396 West 12600 South. Draper and Sandy did not identify any properties of local significance that would be impacted by the Build Alternatives.

**Table 5-2.
Section 4(f) Historic Properties**

Address	Description	Const. Date	NRHP Criterion	SHPO Rating	Alternative
1836 West 10400 South	Bungalow	1926	C	A	1, 3A
1476 West 10400 South	Bungalow	1904	C	A	1, 3A, 7
1402 West 10400 South	Bungalow with Victorian Elements	1910	C	A	1, 3A, 7
1350 West South Jordan Parkway*	Art Deco – Elementary School Auditorium	1929	C	A	1, 3A, 7
3244 West 11400 South	World War II Era Cottage	1941	C	A	1, 4, 7
3113 West 11400 South	One-Story Ranch	1957	C	B	1, 4, 7
11323 South 2700 West	Early Ranch	1950/1958	C	A	1, 4, 7
11395 South Redwood Road* (aka 11389 South Redwood Road, 11367 South Redwood Road, 11369 South 1700 West)	Ranch Style Residence and Bungalow	1950 and 1915	C	B	1, 4, 7
11386 South 1300 West	Two-Story Brick Bungalow	1947	C	B	1, 4, 7
1327 West 11400 South (aka 1323 West 11400 South)	Foursquare Bungalow	1920	C	A	1, 4, 7
11407 South 1300 West*	Rear Half of House	1901	C	A	1, 4, 7
11450 South 800 West (aka 11450 South 700 West)	Single Story Foursquare Structure, Bungalow, and Shot-gun Style House	1920	C	A	1, 4, 7
455 West 11400 South (aka 437 West 11400 South)	Foursquare Bungalow-type Structure	1923	C	A	1, 4, 7
434 West 11400 South	Crosswing Victorian Eclectic Style Structure	1880, 1925, or 1903	C	A	1, 4, 7
170-260 West 11400 South	Historic District, Late 19 th and Early 20 th Century Agrarian Lifestyle	1921-1940	Historic District	Historic District	1, 3A, 4, 7
12653 South 3600 West	World War II Era Cottage	1950 or 1940	C	A	1, 3A
2779 West 12600 South	Former Gas Station	1935	C	A	1, 3A
2630 West 12600 South	Ranch-Style Post War Residence	1950	C	B	1, 3A

**Table 5-2. (cont.)
Section 4(f) Historic Properties**

Address	Description	Const. Date	NRHP Criterion	SHPO Rating	Alternative
2487 West 12600 South	World War II Style Cottage	1941	C	B	1, 3A
2431 West 12600 South	World War II Style Cottage	1940 or 1960	C	B	1, 3A
2395 West 12600 South (aka 2295 West 12600 South)	Striated Brick Structure	1954	C	B	1, 3A
2314 West 12600 South	Semi-Subterranean Basement	1939	C	B	1, 3A
1604 West 12600 South	Queen Anne Victorian Eclectic Style	1941	C	A	1, 3A
1526 West 12600 South	World War II Cottage	1949	C	B	1, 3A
1512 West 12600 South	Striated Brick Residential Structure	1955	C	B	1, 3A
1396 West 12600 South**	1-1/2 Story Victorian Eclectic	1916	C	B	1, 3A
736 West 12300 South	Gambrel-Roofed Barn/Residence	1950	C	B	1, 3A
692 West 12300 South (aka 691 West 12300 South)	Colonial Revival Vernacular	1920	C	A	1, 3A
681 West 12300 South	20 th Century Vernacular Residence	1938	C	B	1, 3A
675 West 12300 South	20 th Century Vernacular Residence	1938	C	A	1, 3A
611 West 12300 South	Post War Residence converted to commercial usage	1949	C	B	1, 3A
390 West 12300 South (aka 438 West 12300 South)	Single Cell House	1910	C	B	1, 3A
274 West 12300 South (aka 270 West 12300 South)	20 th Century Other	1899	C	B	1, 3A
191 West 12300 South	Residential Structure converted to machine shop	1954	C	B	1, 3A
11687 South State Street	Residential Structure	1950	C	B	1
11613 South State Street	Victorian Style	1910	C	A	1
11450 South State St (aka 11440 South State St)	Victorian Eclectic Crosswing Structure	1900	C	A	1
11550 South 260 West	Hall-Parlor Type House	1910	C	A	3A, 7

**Table 5-2. (cont.)
Section 4(f) Historic Properties**

Address	Description	Const. Date	NRHP Criterion	SHPO Rating	Alternative
Jordan and Salt Lake City Canal Bridge at 200 West 11400 South	Jordan and Salt Lake City Canal Bridge	1935	C	--	1, 4, 7
Utah Lake Distributing Canal (42SL286)	Irrigation Canal	1952	A	--	1, 3A, 4, 7
Utah and Salt Lake Canal (42SL307)	Irrigation Canal	1872	A	--	1, 3A, 4, 7
South Jordan Canal (42SL291)	Irrigation Canal	1875	A and B	--	1, 3A, 4, 7
Beckstead Ditch (42SL297)	Irrigation Canal	1859	A and B	--	1, 4, 7
Galena Canal (42SL284)	Abandoned Irrigation Canal	1873	A	--	1, 3A, 4, 7
Jordan and Salt Lake City Canal (42SL214)	Irrigation Canal	1879-1882	A	--	1, 3A, 4, 7
Denver and Rio Grande Western (D&RGW) Railroad (42SL293)	Railroad Tracks	1885	A	--	1, 3A, 4, 7

* This property is considered locally significant to the South Jordan community.

** This property is considered locally significant to the Riverton community

5.4 Impacts to Section 4(f) Resources

This section discusses the impacts from the proposed Build Alternatives to Section 4(f) recreational, wildlife, and historic properties. Figures 5-8a through 5-8f, showing impacts to recreational and wildlife resources, and Figures 5-9a through 5-9f showing impacts to historic resources are included at the end of Section 5.

5.4.1 Park, Recreation, and Wildlife Resources

Jordan River Parkway and Trail

Section 4(f) resources associated with the Jordan River Parkway and Trail would be impacted by all of the proposed Build Alternatives. As detailed below, the impacts would occur due to

the widened crossing at 10600 South (Alternatives 1, 3A, 4, and 7), the new crossing at 11400 South (Alternatives 1, 4, and 7) and the widened crossing at 12300 South (Alternatives 1 and 3A). The impacts to Section 4(f) recreational resources within the Parkway could include minor trail relocation, extending the distance that existing trails would be covered by bridges, temporary rerouting or closure of trail segments, increased noise levels, and visual impacts. These impacts and the resulting Section 4(f) "uses" are described below.

Constructive Use from Noise

The widened and/or new roadways and bridges would increase noise levels. The existing and projected noise increases at each trail crossing site are summarized on Table 5-3. As shown in the table, noise levels are expected to increase over existing

conditions with each of the Build Alternatives, as well as with the No Build Alternative. A complete discussion of the project's noise impacts is included in Section 4.7 of the FEIS.

Under FHWA regulations, increased noise does not constitute a constructive Section 4(f) use if it would not cause noise levels to exceed the applicable FHWA noise abatement criteria (NAC). Also, even if the post-project noise level would exceed the NAC, there is no constructive use if the existing noise level is high and if the increase in the projected noise level if the project is built, when compared with the projected noise levels if the project is not built, is barely perceptible (3 dBA or less) (see 23 CFR 771.135 (p)(5)(ii)-(iii)) & 772 Table 1). Finally, even if the noise level would exceed the NAC and the 3 dBA differential, there is still no Section 4(f) use unless it is concluded that the noise impacts would be "so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired," which requires that such activities, features or attributes are "substantially diminished" (see 23 CFR 771.135(p)(2)).

Table 5-3.
Jordan River Parkway/Trail Noise Levels by Alternative

Alternative	10600 South	11400 South	12300 South
Existing Conditions	65.6 dB	47.9 dB	56.8 dB
2030 No Build	67.0 dB	50.0 dB	58.5 dB
Alternative 1	70.4 dB	63.2 dB	59.8 dB
Alternative 3A	70.9 dB	50.0 dB	60.4 dB
Alternative 4	69.4 dB	63.6 dB	58.7 dB
Alternative 7	69.4 dB	63.3 dB	58.9 dB

For picnic areas, recreational areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches,

libraries, and hospitals, the FHWA NAC is (67) dBA. This is the NAC that applies to the Jordan Parkway and Trail for purposes of Section 4(f).

10600 South

At **10600 South**, under *Alternatives 1, 3A, 4 and 7*, the existing 10600 South roadway and bridge would be widened by 12 feet to accommodate two additional travel lanes, with all of the widening located to the south. The roadway and bridge are currently 106 feet wide. A segment of the Jordan River Parkway Trail (pedestrian/bicycle), which is a Section 4(f) resource, has been completed through this area and passes under the existing bridge on the west side of the river.

The road widening would affect the trail by increasing the distance it would be covered by the bridge by 12 feet (Figure 5-8a), and causing an increase in the level of traffic noise. During construction it might be necessary for short periods to close the trail at the bridge crossing or reroute trail users to a temporary at-grade crossing of 10600 South. The widening would also require the use of an approximately 12-foot wide strip, for a total of approximately 0.15 acres, of URMCC property that is now part of a migratory bird habitat restoration project, which would be a Section 4(f) use (discussed further below).

The visual impact to trail users of a widened bridge and road would be the same under all alternatives. That impact would be negligible and would not cause a constructive use.

With regard to noise impacts, applying the applicable NAC and the FHWA constructive use regulations, there would not be a constructive use of the trail under Alternatives 4 or 7 because while projected noise levels would exceed the NAC, they would be less than 3 dBA higher than projected noise levels without the project, and current noise levels are relatively high. Under

Alternatives 1 and 3A, projected noise levels would exceed the NAC, and also the 3 dBA differential (but only by a very small margin). Thus, a constructive use cannot be ruled out by application of the numeric criteria. However, according to the Division of Parks and Recreation, and based on practical experience at other crossings, the projected noise levels at this crossing point would not substantially diminish recreational use of the trail, which is the quality that makes the trail a Section 4(f) resource. Accordingly, there would not be a noise-based constructive use under Alternatives 1 or 3A.

The additional distance (12') that the trail would be covered by the bridge would not be a Section 4(f) use because it would not entail a direct use of the trail (i.e., no new piers or other physical structure in the trail), and the associated proximity impacts (noise and visual), as discussed above, would not rise to the level of a constructive use.

During widening of the bridge, UDOT may need to block the trail for short periods of time. If this were to occur, UDOT would either reroute trail users across 10600 South just west of the bridge on a temporary at-grade crossing (signalized or attended by a flagman), or limit any trail closures to late-night/early-morning hours when trail use is essentially non-existent. Because any occupancy of the trail would be of short duration, there would be no change of ownership, and there would be no permanent or temporary interference with trail use activities, there would not be a Section 4(f) use of the trail under the "temporary occupancy" provision of the regulations (see 23 CFR 771.135(p)(7)). In addition, the Division of Parks and Recreation has determined that temporary rerouting or closure would not result in significant impairment of the Section 4(f) trail resource. (See September 28, 2004 letter from Division of Parks and Recreation to UDOT in Appendix D)

11400 South

At **11400 South**, under *Alternatives 1, 4 and 7* there would be a new crossing (roadway and bridge) of the Jordan River corridor where no roadway or bridge currently exist. A segment of the Jordan River Parkway Trail (pedestrian/bicycle) currently extends into this area from the north, west of the river, and dead ends about 200 feet south of where the road would cross. This trail will eventually be extended to the south. There is also an equestrian trail on the west side of the river which dead ends approximately 700 feet south of the proposed 11400 South crossing. No trail currently exists on the east side of the river but Draper City plans to extend a trail into this area from the south in the spring of 2005. The trails are the only existing or planned recreational or park facilities in the crossing area, and thus the only Section 4(f) resources.

The new roadway/bridge crossing would be designed to accommodate all of the current and planned trail facilities. The bridge span would be sufficient to allow the trails on the east and west side to pass under the bridge, and a bicycle/pedestrian bridge previously planned for 11200 South would be constructed along the south side of the vehicle bridge (the combined width of the bridges would be 120 feet). The bicycle/pedestrian bridge would connect the east-side and west-side trails and allow access to the trail from 11400 South. Approximately 0.07 acres of land currently occupied by the existing west-side trails would be acquired by UDOT for incorporation into the new roadway. The trails would be shifted to the east by about 200 feet to pass under the bridge (Figure 5-8b).

During construction there could be short-term temporary re-routing or closure of the west-side trails, and of the east-side trail if it has been built. Any closures would be limited to late night/early morning hours when trail use is essentially non-existent. As with

the 10600 South trail crossing, any occupancy of the trail caused by temporary rerouting or closure would not comprise a Section 4(f) use under 23 CFR 771.135(p)(7).

Other than trail relocation, there would be no use of existing recreational facilities at this location. Trail users would be subject to increased noise levels from automobile traffic as they approached the road and bridge (see Table 5-3). These localized noise level increases would be of short duration to the trail user and are not expected to result in less use of the trail (see September 28, 2004 letter from Division of Parks and Recreation to UDOT in Appendix D). In addition, the projected future noise levels with the new road and bridge would range from 63.2 dBA (Alternative 1) to 63.6 dBA (Alternative 4), which is considerably lower than the applicable FHWA NAC of 67 dBA and thus is by definition not a constructive use under the applicable regulation (see 23 CFR 771.135(p)(5)(ii)). Therefore, there would be no substantial impairment or constructive use of the trail due to noise.

The new roadway crossing would add an additional major man-made element to the viewshed of trail users. The quality of the scenery is presently somewhat diminished by residential development that has visually encroached into the river viewshed in some areas, on both the side hills and on the valley floor. These factors have already introduced discordant elements into the character of the landscape that results in only a moderate level of intactness of the overall visual resources of the Jordan River. The introduction of a new river crossing and road at 11400 South would further serve to diminish the quality of the scenery. The visual impact of the new crossing would not, however, comprise a Section 4(f) constructive use of the trail. As indicated above, there are numerous road and bridge crossings of the trail, including the crossings at 10600 South and 123000 South within the study area, and there are many other roads that can be seen and heard from the trail (such as River Front Parkway in the vicinity of 11400

South). Thus, a setting free of visible roads is not considered an important contributing element to the value of the trail as a recreational resource, and the trail does not derive its value in substantial part from such a setting (see 23 CFR 771.135(p)(4)(ii)). In addition, the Division of Parks has concluded that the crossing would not substantially impair use of the trail. Accordingly, the visual impacts from the addition of a new crossing at 11400 South would not constitute a Section 4(f) constructive use.

As previously noted, about 0.07 acres of land currently occupied by the existing west-side trails would be acquired by UDOT for incorporation into the new roadway, and the trails would be shifted to the east by about 200 feet to pass under the new bridge (Figure 5-8b). These trails are considered to be a Section 4(f) resource. Approximately 0.88 acres of public property owned by the Division would be used by the bridge abutments and piers on either side of the river (Figure 5-8c); this area is not a Section 4(f) resource. An additional 0.35 acres of Division-owned land, not currently considered to be a Section 4(f) resource, would be covered by the roadway bridge and would accommodate the relocated parkway trail on the west side of the river. The land that would be occupied by the relocated trail, including under the bridge, would become a Section 4(f) resource.

While 0.07 acres of property under the existing trail would be incorporated into the roadway, relocation of the trails to pass under the bridge would provide the same recreational functionality as currently exists. In addition, the designation of the relocated trail and underlying property as a Section 4(f) resource would effectively offset the Section 4(f) property that would be incorporated into the roadway.

The new roadway bridge and pedestrian/bicycle bridge would also provide residents on the east side of the river with greater access

to recreational facilities in place on the west side near 11400 South, such as the Midas Creek Fishing Ponds and River Front Park. Without the new bridge, residents on the east side of the river have to travel north to 10600 South or south to 12300 South to access these recreation areas.

Under these circumstances, it is not clear that a Section 4(f) use of the trail would occur from construction of the new roadway and bridge at 11400 South. The FHWA regulations do not directly address the situation where the alignment of a trail is shifted but functionality is preserved or enhanced and there is no “net loss” of Section 4(f) land or resource. Similar situations addressed in an FHWA guidance document and in the decision of an appellate court suggest that a Section 4(f) use may not occur under these circumstances. See FHWA Section 4(f) Policy Paper, Questions 14 and 15 (March 1, 2005)(where recreational trail or bikeway is located within transportation facility right-of-way, and the alignment of the trail, bikeway or highway is changed, there is no Section 4(f) use if the continuity of trail or bikeway is not substantially impaired); Laguna Greenbelt, Inc. vs. U.S. Department of Transportation, 42 F.3d 517 (9th Cir. 1994)(relocation of bike path within its designated right-of-way not a Section 4(f) use).

Also, because a road crossing of the river at 11400 South has been planned for several decades, prior to the time there were any specific plans for the trail through this area and long before the trail was constructed (the trails at 11400 South were constructed a few years ago), it is questionable whether relocation of the trail to accommodate the roadway is a Section 4(f) use. (See FHWA Section 4(f) Policy Paper, Question 16 (“Joint Development”; 23 CFR 771.135(p)(5)(iv–v)).

Despite this uncertainty, it has been determined that a Section 4(f) use of the trails at 11400 South under Alternatives 1, 4 and 7

will be assumed for the purposes of this Section 4(f) evaluation, based on the incorporation of a portion of the land currently occupied by the trail (0.07 acres) into the new roadway that would be built under those Alternatives.

12300 South

At **12300 South**, under *Alternatives 1 and 3A* there would be a widened crossing of the Jordan River corridor in the 12300 South/12600 South area, as the road would be widened to accommodate two additional travel lanes (Figure 5-8d). This would add 6 feet to the roadway and bridge width. The Jordan River Parkway Trail (pedestrian/bicycle) currently extends through this area, passing under the existing bridge on the east side of the river.

The widening would not affect the trail segments other than increasing the distance that they would be covered by the bridge, and causing an increase in the level of traffic noise. (See Table 5-3.) The projected noise level under Alternatives 1 and 3A would be 59.8 dBA and 60.4 dBA respectively. This is well below the FHWA NAC of 67 dBA and thus would not result in a noise-based constructive use (see 23 CFR 771.135(p)(v)(ii)). Visual impacts would be negligible and also would not result in a constructive use.

During widening of the bridge, UDOT may need to block the trail for short periods of time. If this were to occur, UDOT would either reroute trail users across 12300 South just west of the bridge on a temporary at-grade crossing (signalized or attended by a flagman), or limit any trail closures to late-night/early-morning hours when trail use is essentially non-existent. Because any occupancy of the trail would be of short duration, there would be no change of ownership, and there would be no permanent or temporary interference with trail use activities, there would not be a Section 4(f) use of the trail under the “temporary occupancy”

provision of the regulations (see 23 CFR 771.135(p)(7)). In addition, the Division of Parks and Recreation has determined that temporary rerouting or closure would not result in significant impairment of the Section 4(f) trail resource. (See September 28, 2004 letter from Division of Parks and Recreation to UDOT in Appendix D).

The widened roadway in this area would also impact the Jordan River Rotary Park, a partially developed 4(f) resource owned by Draper City which runs along the east side of the river (discussed below).

URMCC Migratory Bird Habitat Restoration Project

Approximately 0.15 acres of this property on the south side of 10600 South would be required under *Alternatives 1, 3A, 4, and 7* to accommodate the roadway widening (Figure 5-8a). Because URMCC property is located on both the north and south side of 10600 South at the Jordan River, this property cannot be avoided. URMCC has requested that the widening be to the south rather than to the north due to the presence of more valuable wetlands located on the northern portion of the property. Based on the above, there would be a Section 4(f) use of 0.15 acres of this wildlife habitat.

10600 South Class 1 Bicycle Trail

Although there may be temporary construction impacts to the Class 1 bicycle trail due to roadway widening under *Alternatives 1, 3A, 4, and 7*, there would be no permanent use of the path since it would be restored to its previous condition as part of the roadway construction. The 10-foot wide bicycle path would be maintained as part of the widening effort, but would be shifted approximately 12 feet north of its existing location. The occupancy would be of short duration, there would be no change of ownership, and there would be no temporary or permanent adverse change to the

property. Therefore, according to 23 CFR 771.135(p)(7), there would not be a Section 4(f) use of this resource.

Willow Creek Park

Draper's planning for this future park was conducted jointly with UDOT in anticipation of possible widening of 11400 South. Park plans have accommodated a stormwater detention pond as well as additional width for widening 11400 South. The property for the detention pond was conveyed to Draper by UDOT on the condition that UDOT would retain the right to use the property for a detention pond and any necessary roadway widening. Therefore, since these features are already incorporated into park plans, there would be no Section 4(f) use of the park (see 23 CFR 771.135(p)(5)(iv-v)).

Salt Lake County Equestrian Park

There would be no impacts to the Salt Lake County Equestrian Park from any of the Build Alternatives. Although the 11400 South roadway would be widened in front of the park under Alternatives 1, 4, and 7, this widening would not impact park property or any of the park facilities. Therefore, there would be no Section 4(f) use of this resource.

Galena Hills Community Park

Widening of 12300/12600 South under *Alternatives 1 and 3A* includes widening the grade-separated crossing at the UPRR tracks at approximately 450 West. A temporary railroad shoofly would be necessary during the railroad bridge widening construction (Figure 5-8e). A segment of the shoofly would require approximately 6 acres within the limits of the planned park. Park development is planned to commence in 2005. Once roadway construction begins, the impacts from the shoofly could exist for over a year. Draper City has indicated that this would create a significant impact on the planned park amenities, including soccer

fields, tennis courts, basketball courts, volleyball court, and a playground (see September 8, 2004 letter from Draper City to UDOT in Appendix D).

Based on the above, there would be a long-term temporary occupancy of 6 acres of the park that would rise to the level of a Section 4(f) use.

Jordan River Rotary Park

The widening of 12300/12600 South under *Alternatives 1 and 3A* would require the direct use of 0.3 acres of park property for transportation use (Figure 5-8d). Draper City has indicated that this widening would also create proximity impacts to some of the planned park facilities, including the proposed basketball court, equestrian trail, and picnic area (see September 8, 2004 letter from Draper City to UDOT in Appendix D).

Based on the above, there would be a Section 4(f) use of 0.3 acres of the Park and proximity impacts to planned park facilities.

I-15 Wetland Mitigation Site/Wildlife Preservation Area

The widening of 12300/12600 South under *Alternatives 1 and 3A* will be confined to the north side of the road at this location in order to avoid this Section 4(f) resource. Therefore, there would be no Section 4(f) use of this resource. Although this property can be avoided, it requires impacting the Jordan River Rotary Park located on the north side of 12300 South. Because of the additional wetlands impacts associated with widening onto the I-15 Wetland Mitigation Site, it was determined that less net harm would result by encroaching upon the planned facilities of the Jordan River Rotary Park instead of the developed mitigation site.

Riverton City Skate Park

The widening of 12300/12600 South under *Alternatives 1 and 3A* would reduce the safety buffer designed into the plans for the newly constructed Riverton City Skate Park at 1450 West and 12600 South and would require the use of 0.08 acres of publicly owned park property on the north side of the skate park (Figure 5-8f). According to Riverton City (see September 9, 2004 letter from Riverton City to UDOT in Appendix D), the park was designed for more experienced skaters to use the north side of the park, where the bowls are located. Skaters will be skating out of the bowls at various speeds and at times directly towards the road. The road widening would remove the planned safety buffer that was determined necessary at the beginning of the skate park project. The incorporation of 0.08 acres of the park into the roadway would be a Section 4(f) use.

Summary of Impacts to Recreational and Wildlife Properties

Table 5-4 summarizes the impacts to recreational and wildlife property by alternative. As shown in the table, Alternatives 1 and 3A would cause the most Section 4(f) uses of recreational and wildlife properties. A qualitative analysis of the impacts is presented in Section 5.8.1.

**Table 5-4.
Recreational and Wildlife Property Impacts and Uses by Alternative.**

Address or Other Location	Alternative 1	Alternative 3A	Alternative 4	Alternative 7
Jordan River Parkway Trail at 10600 South	Increase in distance that trail would be covered by bridge at 10600 South (12 feet), temporary occupancy during construction. No 4(f) use	Increase in distance that trail would be covered bridge at 10600 South (12 feet), temporary occupancy during construction. No 4(f) use	Increase in distance that trail would be covered by bridge at 10600 South (12 feet), temporary occupancy during construction. No 4(f) use	Increase in distance that trail would be covered by bridge at 10600 South (12 feet); temporary occupancy during construction. No 4(f) use
Jordan River Parkway Trail at 11400 South	Minor relocation and covering of trail for 120 feet at 11400 South, and use of 0.07 acres of 4(f) property.	No 4(f) use	Minor relocation and covering of trail for 120 feet at 11400 South, and use of 0.07 acres of 4(f) property.	Minor relocation and covering of trail for 120 feet at 11400 South, and use of 0.07 acres of 4(f) property.
Jordan River Parkway Trail at 12300 South	Increase in distance that trail would be covered by bridge at 12300 South (6 feet), temporary occupancy during construction. No 4(f) use	Increase in distance that trail would be covered by bridge at 12300 South (6 feet), temporary occupancy during construction. No 4(f) use	No 4(f) use	No 4(f) use
URMCC Habitat Restoration Site	Use of 0.15 acres of 4(f) property	Use of 0.15 acres of 4(f) property	Use of 0.15 acres of 4(f) property	Use of 0.15 acres of 4(f) property
10600 South Bicycle Path	Temporary Occupancy No 4(f) use	Temporary Occupancy No 4(f) use	Temporary Occupancy No 4(f) use	Temporary Occupancy No 4(f) use
Bingham High School	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Willow Creek Park	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Salt Lake County Equestrian Park	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Galena Hills Community Park	Long-term temporary occupancy and 4(f) use of 6 acres of park & planned amenities	Long-term temporary occupancy and 4(f) use of 6 acres of park & planned amenities	No 4(f) use	No 4(f) use

**Table 5-4. (cont.)
Recreational and Wildlife Property Impacts and Uses by Alternative.**

Address or Other Location	Alternative 1	Alternative 3A	Alternative 4	Alternative 7
Jordan River Rotary Park	Use of 0.3 acres of park property and proximity impact to planned park amenities	Use of 0.3 acres of park property and proximity impact to planned park amenities	No 4(f) use	No 4(f) use
I-15 Wetland Mitigation Site/ Wildlife Preservation Area	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Riverton Skate Park	Use of 0.08 acres of 4(f) property. Removal of skater safety buffer zone	Use of 0.08 acres of 4(f) property. Removal of skater safety buffer zone	No 4(f) use	No 4(f) use
Total number of 4(f) uses	5	4	2	2
Total acres converted to transportation use	6.60	6.53	0.22	0.22

5.4.2 Historic Resources

Historic Structures

The Build Alternatives would require either entire parcel takes or partial property takes (strip takes) of a number of historic sites. If the required roadway right-of-way for a project would encroach within 15 feet of a property structure, UDOT typically purchases the entire property (parcel take). If the required right-of-way would be greater than 15 feet from a property structure, UDOT typically just purchases a portion of the property and not the entire parcel (strip take). The decision as to whether property is purchased in whole or in part is based on several variables not known until final design, including: severity of the impact on the value and function of the remaining portion(s) of the property, negotiations with the landowner and their desires, and any local zoning requirements that may establish minimum distances from structures to rights-of-way. UDOT has used the 15-foot distance as a guide for the purposes of planning, project right-of-way cost estimations, and environmental impact analysis.

As discussed in Section 4.11.2, for most of the historic resources affected by the Build Alternatives, a parcel take would be considered an *Adverse Effect* of the property, while a strip take would generally be considered *No Adverse Effect*. Adverse Effects result in the alteration of the characteristics that qualify a property for the NRHP in a manner that diminishes the integrity of the property and therefore parcel takes are considered significant impacts in this analysis. No Adverse Effect means the action would not result in the alteration of the characteristics that qualify the property for listing on the National Register in a manner that would diminish any of the relevant aspects of integrity. Therefore, while strip takes are still a 4(f) use, their impact is not as significant as a parcel take or an “Adverse Effect” determination by the SHPO. Accordingly, a strip take has less influence when calculating the net harm analysis.

The boundaries drawn for the eligible properties are generally defined by the tax parcel. National Register Bulletin 16A (page 56)

suggests that for urban and suburban properties, the legally recorded parcel number or lot lines are appropriate when those parcels retain their historic boundaries and integrity. National Register Bulletin 21 (page 3) states “Boundaries should include surrounding land that contributes to the significance of the resources by functioning as the setting... For example, do not limit the property to the footprint of the building, but include its yard or grounds ...” Along many roads in the Salt Lake Valley, the tax parcel goes to the center of the street. Because the road and its associated features are there often by prescriptive use, the part of the private property under these transportation features does not retain integrity, and the boundary is drawn behind these features, generally behind the sidewalk. The front yard of a residence represents the transitional zone between public and private use of space. Although many of the older homes in the study area were once part of larger farmsteads, these farms have been broken up and subdivided, especially post-WWII. The result is that for most of these properties, it is only the property now defined by the current tax parcel boundary that retains integrity. If there are outbuildings, landscape features, natural features, or other elements that contribute to conveying the property’s significance, boundaries are drawn as appropriate so that the historic use of the property and retention of elements of integrity related to that use

are included. The property at 11450 South contains recent commercial buildings and the surrounding setting has been altered. For this structure, the historic boundary is the building itself.

A 4(f) use would occur if there were either a parcel take or a strip take of a historic property from a proposed alternative. If the project would cause no direct use of historic property, there would be no direct 4(f) use.

Table 5-5 summarizes the impacts to historic properties by each of the Build Alternatives. A description of each of these impacted properties follows the table. To quantify historic impacts, acreages associated with each strip take and parcel take that would be converted to transportation use was calculated and include in Table 5-5. A qualitative analysis of the impacts is presented in Section 5.8.3.

Alignment shifts or cross section reductions were incorporated into the Build Alternatives where possible to avoid or minimize impacts to the historic property. These alignment shifts and cross section reductions are discussed in Section 5.6, *Measures to Minimize Harm*.

Table 5-5.
Historic Properties Impacted by Alternative

Address or Other Location	Alternative 1	Alternative 3A	Alternative 4	Alternative 7
1476 W. 10400 S.	Strip Take 0.01 acres	Strip Take 0.01 acres	No Impact	Strip Take 0.01 acres
3113 W. 11400 S.	Strip Take 0.07 acres	No Impact	Strip Take 0.07 acres	Strip Take 0.07 acres
11323 S. 2700 W.	Strip Take 0.40 acres	No Impact	Strip Take 0.40 acres	Strip Take 0.40 acres
11395 S. Redwood Road*	Strip Take 0.12 acres	No Impact	Strip Take 0.12 acres	Strip Take 0.12 acres

Table 5-5. (cont.)
Historic Properties Impacted by Alternative

Address or Other Location	Alternative 1	Alternative 3A	Alternative 4	Alternative 7
11386 S. 1300 W.	Strip Take 0.30 acres	No Impact	Strip Take 0.30 acres	Strip Take 0.30 acres
1327 W 11400 S. (aka 1323 W. 11400 S.)	Strip Take 0.42 acres	No Impact	Strip Take 0.42 acres	Strip Take 0.42 acres
11407 S. 1300 W.*	Parcel Take 0.61 acres	No Impact	Parcel Take 0.61 acres	Parcel Take 0.61 acres
11450 S. 800 W. (aka 11450 S. 700 W.)	Strip Take 2.87 acres	No Impact	Strip Take 2.87 acres	Strip Take 2.87 acres
434 W. 11400 S.	Strip Take 0.14 acres	No Impact	Strip Take 0.14 acres	Strip Take 0.14 acres
170-260 W. 11400 S. (Fairbourn Historic District)	Parcel Take 3.9 acres	Strip Take 3.1 acres	Parcel Take 8.2 acres	Parcel Take 7 acres
2779 W. 12600 S.	Parcel Take 0.04 acres	Parcel Take 0.04 acres	No Impact	No Impact
736 W. 12300 S.	Parcel Take 0.04 acres	Parcel Take 0.04 acres	No Impact	No Impact
191 W. 12300 S.	Parcel Take 0.08 acres	Parcel Take 0.08 acres	No Impact	No Impact
11687 S. State Street	Strip Take 0.02 acres	No Impact	No Impact	No Impact
11613 S. State Street	Strip Take 0.11 acres	No Impact	No Impact	No Impact
Jordan and Salt Lake City Canal Bridge at 200 W. 11400 S.	Parcel Take 0.04 acres	No Impact	Parcel Take 0.04 acres	Parcel Take 0.04 acres
Utah Lake Distributing Canal				
3300 W. 12600 S.	Strip Take 0.03 acres	Strip Take 0.03 acres	No Impact	No Impact
3100 W. 11400 S.	Strip Take 0.007 acres	No Impact	Strip Take 0.007 acres	Strip Take 0.007 acres
2700 W. 10400 S.	Strip Take 0.04 acres	Strip Take 0.04 acres	No Impact	No Impact

**Table 5-5. (cont.)
Historic Properties Impacted by Alternative**

Address or Other Location	Alternative 1	Alternative 3A	Alternative 4	Alternative 7
Utah and Salt Lake Canal				
2200 W 12600 S.	Strip Take 0.04 acres	Strip Take 0.04 acres	No Impact	No Impact
2200 W. 11400 S.	Strip Take 0.03 acres	No Impact	Strip Take 0.03 acres	Strip Take 0.03 acres
1800 W. 10400 S.	Strip Take 0.07 acres	Strip Take 0.07 acres	No Impact	Strip Take 0.07 acres
South Jordan Canal				
1500 W. 12600 S.	Strip Take 0.09 acres	Strip Take 0.09 acres	No Impact	No Impact
1500 W 11400 S.	Strip Take 0.04 acres	No Impact	Strip Take 0.04 acres	Strip Take 0.04 acres
1100 W. 10400 S.	Strip Take 0.02 acres	Strip Take 0.02 acres	No Impact	Strip Take 0.02 acres
Beckstead Ditch				
1000 W. 11400 S.	Strip Take 0.12 acres	No Impact	Strip Take 0.12 acres	Strip Take 0.12 acres
Galena Canal				
1000 W. 12300 S.	Strip Take 0.06 acres	Strip Take 0.06 acres	No Impact	No Impact
900 W. 11400 S.	Strip Take 0.40 acres	No Impact	Strip Take 0.40 acres	Strip Take 0.40 acres
Jordan and Salt Lake City Canal				
200 W. 11400 S.	Strip Take 0.05 acres	No Impact	Strip Take 0.05 acres	Strip Take 0.05 acres
11350 S. at I-15	No Impact	No Impact	Strip Take 0.24 acres	No Impact
11500 S. Lone Peak Pkwy	No Impact	Strip Take 0.07 acres	No Impact	Strip Take 0.07 acres
12100 S. Lone Peak Pkwy	No Impact	Strip Take 0.07 acres	No Impact	Strip Take 0.07 acres

Table 5-5. (cont.)
Historic Properties Impacted by Alternative

Address or Other Location	Alternative 1	Alternative 3A	Alternative 4	Alternative 7
100 W. 12300 S.	Strip Take 0.01 acres	Strip Take 0.01 acres	No Impact	No Impact
Denver Rio Grande Western Railroad (UPRR)				
10850 South Jordan Gateway	No Impact	Strip Take 0.19 acres	No Impact	Strip Take 0.19 acres
380 West 11400 South	Strip Take 0.17 acres	No Impact	Strip Take 0.17 acres	Strip Take 0.17 acres
450 West 12300 South	Strip Take 0.06 acres	Strip Take 0.06 acres	No Impact	No Impact
Total Number of Parcel Takes	6	3	3	3
Total Number of Strip Takes	26	14	15	20
Total Acres Converted to Transportation Use	10.4	4.0	14.2	13.2

* Property identified as locally significant by South Jordan City

1476 West 10400 South – This historic house is a bungalow type structure that was constructed in 1904. The structure has recently been remodeled. Alterations include enlargement of the window and door openings on the front façade, replaced windows throughout, and new front door and porch rail. However, FHWA and UDOT have determined and SHPO has concurred that this property is still eligible for inclusion on the NRHP under Criterion C and has a SHPO Rating of A.

3113 West 11400 South – This one-story Ranch with Garage is rectangular in plan with a side-gabled roof and a multi-colored brick finish. Windows are fixed-pane and sliding aluminum. An attached side-gabled two-car garage projects from the west façade. This historic house was constructed in 1957. FHWA and

UDOT have determined and SHPO has concurred that it is eligible for the NRHP under Criterion C and has a SHPO Rating of B.

11323 South 2700 West – This historic house is an Early Ranch style constructed in 1950 according to the assessor's records or 1958 according to the SHPO database. The structure has been minimally altered. The windows may have been changed but appear to be in keeping with the original type. FHWA and UDOT have determined and SHPO has concurred that it is eligible for the NRHP under Criterion C and has a SHPO Rating of A.

11395 South Redwood Road – (aka 11389 South Redwood Road, 11367 South Redwood, 11367 South 1700 West and 11369 South 1700 West) – This property contains two structures, a 1950 ranch style residence and 1915 bungalow. The assessor's records included historic information and photographs for both of these

and they both appear to be minimally altered. The ranch style house is currently occupied while the bungalow is abandoned and deteriorated. This historic property also contains two contributing outbuildings – an animal pen and a shed. FHWA and UDOT have determined and SHPO has concurred that it is eligible for the NRHP under Criterion C and has a SHPO Rating of B. The bungalow is also a locally significant landmark to the South Jordan community.

11386 South 1300 West – This historic brick house is a two-story bungalow that was constructed in 1947. The structure has been minimally altered. The house is characteristic of homes built during the World War II era. There are several outbuildings located on this property, including a detached garage and other farm related structures. However these outbuildings are out of period and do not contribute to the historic value of the property. FHWA and UDOT have determined and SHPO has concurred that the house is eligible for inclusion on the NRHP under Criterion C and has a SHPO Rating of B.

11407 South 1300 West – This historic property was constructed in 1901. The structure is the rear half of a house that, according to Karen Bashore (Riverton City Certified Local Government) was moved here in fulfillment of a divorce settlement. The front half is still extant and is located on Redwood Road, south of the study area. A small addition has been built onto the east façade. The assessor's records include a 1938 photograph showing the house at this location but no other information. This home is considered a locally significant landmark to the South Jordan community. FHWA and UDOT have determined and SHPO has concurred that this house is eligible for the NRHP under Criteria C and has a SHPO Rating of A.

1327 West 11400 South (aka 1323 West 11400 South) – This foursquare historic house is a bungalow type structure constructed

in 1920, with a pyramidal shaped porch. Two chimneys are located near the center of the roof. The structure has been minimally altered. The possible addition of a door on the east facade is the only change of note. Seven long chicken coop-type buildings, a detached garage, and two sheds are all contributing outbuildings. FHWA and UDOT have determined and SHPO has concurred that the property is eligible for inclusion on the NRHP under Criterion C and has a SHPO Rating of A.

11450 S. 800 West (aka 11450 S. 700 West) – This property consists of three structures, all of which may have been residential at one time, but now only the easternmost structure appears to be occupied. The house was constructed in 1920 and is a single story foursquare type structure. There are two chimneys located on the north side of the house and mature cottonwood trees on the south side of the house. The two smaller structures on the property contribute to its eligibility. One is a small bungalow-type structure with a clipped gable roof. This building is located directly west of the historic house and has been used as a storage area. The second outbuilding is a small, narrow, shot-gun style house. There are other outbuildings on this historic property but they do not contribute to the historic value of the property. FHWA and UDOT have determined and SHPO has concurred that this property is eligible for listing on the NRHP under Criterion C and has a SHPO Rating of A.

434 West 11400 South – This cross-wing type historic house was built in 1880 or 1925 according to the SHPO database, or 1903 according to the assessor's records, which appears to be an average of the other two dates. The type, Victorian Eclectic style, and adobe construction material are most consistent with the 1880 date. The house is a single story structure built with a projecting bay on the right side. The double-hung windows are original and the front entryway is a covered porch. The structure has been somewhat altered. Changes include a fairly new asphalt roof, a

porch addition on the south façade, and a large awning, stairwell enclosure, and a new aluminum storm and non-original interior door on the north façade. Given the uniqueness of the property, FHWA and UDOT have determined and SHPO has concurred that these alterations can be overlooked and the property would be eligible for inclusion on the NRHP under Criterion C and has a SHPO Rating of A. There are three contributing outbuildings associated with this historic property – a detached garage, an animal pen, and a storage shed/barn.

170-260 West 11400 South - The Fairbourn Historic District is significant because these properties, constructed 1921-1940, are representative of the late 19th and early 20th Century agrarian lifestyle and multigenerational family farms, and for its association with William Fairbourn, a locally prominent member of the community of Crescent and the Church of Jesus Christ of Latter-Day Saints. The District includes the William Fairbourn Farmstead (175 West), the Richard Fairbourn Farmstead (170 West), the Reuben Fairbourn Farmstead (180 West), and the Leslie Fairbourn Farmstead (260 West). These properties can be best understood as a historic district under the theme *The Fairbourn Farmsteads: Multi-Generational Agrarian Lifestyle in Crescent, Utah 1883-1954*. Comprised of numerous residences and a variety of outbuildings and cultural features, the District provides historical data on the evolution of a complex of family farms that individually and collectively reflect the struggles and successes of an agrarian lifestyle dating from the 1880s to the present. The areas of significance include: A, Agricultural; B, Association with William Fairbourn; and C, Architecture and Land-use patterns. The period of significance is 1883-1954. FHWA and UDOT have determined and SHPO has concurred that it has been determined this property to be eligible as a National Register District.

2779 West 12600 South/2767 West 12600 South – There are two structures on this property, but only one (2779 West) is

considered historic. This structure, built in 1935, was a former gas station that has been minimally altered. It was previously identified as adobe, but it is actually cinder block construction. The door and window opening were boarded up and the entire structure has been painted gray. The brick sills on the front windows may be non-original. FHWA and UDOT have determined and SHPO has concurred that the property is eligible for inclusion on the NRHP under Criterion C and has a SHPO Rating of A. The other structure on the property (2767 West) was built in 1938 and has recently been extensively altered and is no longer considered eligible for the NRHP.

736 West 12300 South – This historic house is a post-war residence that was built in 1950. The structure appears to be a gambrel-roofed barn that was converted to a residence. Changes include a porch addition on the north façade, a shed-roofed addition on the east façade, boarding up of some of the windows, and a partial covering of the upper story with asphalt shingles. The exterior has had no major alterations. There are no contributing outbuildings located on this property. FHWA and UDOT have determined and SHPO has concurred that the property is eligible for inclusion on the NRHP under Criterion C and has a SHPO Rating of B.

191 West 12300 South – This historic house was built in 1954 and has no discernable style. The house has been converted to a machine shop and has been resided since its original construction. There are no contributing outbuildings located on this property. FHWA and UDOT have determined and SHPO has concurred that the property is eligible for inclusion on the NRHP under Criterion C and has a SHPO Rating of B.

11687 South State Street – This residential structure was built in 1950. The structure has been somewhat altered. Changes include conversion of the attached garage to a shop with replacement of

the garage door with a standard door entry; one of the windows in the west façade may have been replaced, a rear addition for a mud-room and porch enclosure for a hot-tub, and non-original window awnings and a new storm door on the front façade. An out-of-period garage is located south of the house. FHWA and UDOT have determined and SHPO has concurred that this house is eligible for the NRHP under Criterion C with a SHPO Rating of B.

11613 South State Street – This Victorian style structure, which was constructed in 1910, appears to be minimally altered. Changes include a small rear addition and a new asphalt shingle roof. Two contributing outbuildings are located behind the house. FHWA and UDOT have determined and SHPO has concurred that the property is eligible for the NRHP under Criterion C and has a SHPO Rating of A.

Bridge over Jordan and Salt Lake City Canal This historic bridge spans the Jordan and Salt Lake City Canal on 11400 South Street at approximately 200 West. The bridge was constructed in 1935 and is a single span structure with concrete T-beams and abutments. The bridge span length is 23 ft. with a deck width of 22 ft. The site is eligible for the NRHP under Criterion C: it is representative of Depression-era bridge structures.

Utah Lake Distributing Canal (West of 2700 West) The Utah Lake Distributing Canal (42SL286) runs north from the Murdock Pumping Station at Utah Lake to Kearns in the Salt Lake Valley. The canal has earthen banks and its general dimensions are approximately 15-20 ft. wide and 2-3 ft. deep. The canal is still in use and is regularly maintained. Historical records indicate that the Utah Lake Irrigation Company filed an application to appropriate water from Utah Lake in 1908 (Hooton 1989). The application was certificated in 1931 and corrected in 1944. In 1952, the Utah Lake Distributing Company acquired the rights to

the company. The canal passes under 12600 South Street through a concrete bridge or culvert. The canal is carried under 11800 South Street through a concrete box culvert, which measures 18 ft. wide and 4 ft. deep. The canal crosses 12600 South, 11400 South, and 10400 South West Streets between 2700 West and 3600 West Streets. The Utah Lake Distributing Canal is eligible for the NRHP under Criterion A: it is associated with events that have made a significant contribution to the broad pattern of history in the area.

Utah and Salt Lake Canal (around 2200 West) The Utah and Salt Lake Canal (42SL307) derives its water from Utah Lake and the Jordan River and runs northward and westward from the Jordan River near the Salt Lake and Utah county border. The canal has earthen banks, measures approximately 25 to 30 ft. wide and 3-4 ft. deep, and is still used and regularly maintained. Historical records indicate that the Utah and Salt Lake Canal was constructed in 1872 and 1881 (Bashore and Crump 1994). The West Jordan Canal Company, which was created in 1877 to construct the canal, was reorganized as the Utah and Salt Lake Canal Company in 1880 in order to eliminate problems with precinct boundaries. The canal was enlarged in 1924 to support the Utah Copper Company. The canal is carried under 11800 South Street through a concrete box culvert, which measures 30 ft. wide and 3 ft. deep. The canal crosses under 10400 South Street just west of Redwood Road (1700 West Street) through a box culvert, which has recently been enhanced by concrete abutments, with guardrails, chain link fencing, and a catwalk on the south side of the road. The Utah and Salt Lake Canal is eligible for the NHRP under Criterion A: it is associated with events that have made a significant contribution to the broad pattern of history in the area.

South Jordan Canal (about 1500 West) The South Jordan Canal (42SL291) diverts water from the west side of the Jordan River

near Point of the Mountain and runs northward along the eastern edge of the Salt Lake Valley and terminates at Kearns. It provides water to Riverton, South Jordan, and West Jordan. The canal has earthen banks, measures approximately 40-45 ft. wide and 10 ft. deep, and is still used and regularly maintained. A box culvert and diversion structures were added in 1977 where the canal crosses under the South Jordan Parkway. Historical records indicate that the canal was constructed in approximately 1875, and it has been enlarged and modified over the years. The canal flows through a culvert under 11400 South Street at approximately 1550 West Street. The South Jordan Canal is eligible for the NRHP under Criteria A and B: it retains much of the character of an early irrigation canal and it is associated with prominent figures in the history of the area (i.e., Archibald Gardner, Isaac Wardle, and Jesse Fox).

Beckstead Ditch (west of the Jordan River) The Beckstead Ditch (42SL297) derives its water from the Jordan River near 12300 South Street and follows the base of the bluff at the western edge of the Jordan River valley. The ditch is approximately 10 ft. wide and 5 ft. deep and used for agricultural purposes. Historical records indicate that Alexander Beckstead, his sons Samuel Alexander and Thomas, and Isaac J. Wardle constructed the Beckstead Ditch in 1859, the first irrigation ditch to be built in the South Jordan area (Brough 1898). The Beckstead Irrigation Company was incorporated in 1888. The ditch has been piped underneath 11400 South Street and is no longer visible on the surface. The ditch crosses Midas Creek by a concrete flume and is conveyed under the South Jordan Parkway through a steel culvert. A section north of the South Jordan Parkway has been realigned and lined with riprap materials. The ditch is eligible for the NRHP under Criteria A and B: it retains much of the original character of an early pioneer ditch and is associated with

prominent figures in the history of the area (i.e., the Becksteads and Isaac Wardle).

Galena Canal The Galena Canal (42SL284) derived its water from the Jordan River and follows the base of the bluff at the eastern edge of the Jordan River valley. The canal was built and used to provide water to copper and lead smelters in the Midvale area. It has earthen banks and it measures 6-25 ft. wide and 5 ft. deep. Historical records indicate that Archibald Gardner constructed the Galena Canal in 1873 (Nielson 1978). The canal was in continual use until the early 1970s when the only remaining Midvale smelter, operated by the U.S. Smelting Refining and Mining Company, was closed (Eccles 1998: 12). The Galena Canal is no longer used for agricultural and industrial purposes and has been considerably altered by work on 10600 South Street and the Union Pacific railroad. The Galena Canal is eligible for the NRHP under Criterion A: it is the only canal in Utah that was used to divert water for the smelting industry.

Jordan and Salt Lake City Canal The Jordan and Salt Lake City Canal (42SL214) derives its water from the Jordan River and follows the topographic contours on a gentle slope above and east of the Jordan River valley. It is owned, operated, and maintained by the Salt Lake City Department of Public Utilities. The earthen-lined canal measures approximately 30 ft. wide and 5-8 ft. deep. It is still in use and is regularly maintained. Historical records indicate that the Jordan and Salt Lake City Canal was constructed between 1879 and 1882 (Harris 1942: 5). It was the first canal built from the Jordan River to Salt Lake City and areas to the south, so as to increase the supply of potable water to those areas and was never used for farming purposes (Polk et al. 1994: 34). The canal crosses under 12300 South via a concrete culvert or bridge and is carried under Lone Peak Parkway through a concrete box culvert that measures 22 ft. wide and 5 ft. high. The Jordan and Salt Lake City Canal is eligible for the NRHP under

Criterion A: it was the first canal built from the Jordan River to Salt Lake City and areas to the south

Denver and Rio Grande Western Railroad (UPRR) The Denver and Rio Grande Western (D&RGW) Railroad (42SL293) runs north and south along the western side of Interstate 15. The railroad right-of-way is 45 ft. wide from fence to fence and includes an access road on the western side of the tracks. Historical records indicate that construction of the D&RGW Railroad was completed in 1885. It was later purchased by the Union Pacific railroad (UPRR). These tracks are in constant use and regularly maintained by the UPRR. The railroad crosses 11400 South and 12300 South Streets at-grade. The D&RGW Railroad is eligible for the NRHP under Criterion A: it has played a major role in the development of the Salt Lake Valley.

5.5 Avoidance Alternatives

Although the No Build Alternative would not have any impacts to historic, recreational, or wildlife properties, it did not meet the project purpose and need. Therefore, it was not considered prudent.

Because the project purpose and need included improving east-west mobility in the study area, and because of the linear nature of the Jordan River Parkway and Trail, the historic canals, and the historic railroad, there were no reasonable alternatives that could completely avoid all of these resources and still meet the purpose and need for the project. All of the Build Alternatives involved making improvements to existing roadways running east and west in the study area or adding a new east-west river crossing. The linear Section 4(f) resources all run in a north-south direction, so all the Build Alternatives would cross some or all of these resources. Each of the Build Alternatives would also affect several

architectural historic properties, even after application of all prudent and feasible avoidance measures.

5.6 Measures to Minimize Harm

While there were no prudent and feasible alternatives that would completely avoid all Section 4(f) resources, measures to avoid or minimize impacts to individual resources were considered and incorporated into the Build Alternatives if prudent and feasible. This section discusses measures to minimize harm, including avoidance of individual Section 4(f) resources, considered for the recreational, wildlife, and historic properties potentially impacted by the Build Alternatives.

5.6.1 Recreational and Wildlife Resources

Jordan River Parkway and Trail

The Parkway and Trail is a linear feature with public property along one or both sides of the Jordan River for the entire length of the study area. The existing and currently planned trails will run along the entire length of the river within the study area. For this reason, there is no location where a new or widened east-west road could be constructed without crossing the 4(f) resource.

In order to meet project purpose and need for mobility improvements within the study area, east west mobility needs to be improved. Therefore, there were no prudent and feasible alternatives that would meet project purpose and need and avoid impacts to this recreational resource.

To avoid a Section 4(f) use of the trail from widening of the bridges at 10600 and 12300 South, UDOT will not site any new bridge support structures in the trail, and during construction UDOT will either provide a trail detour during temporary closures of the current trail, or limit any such closures to late night/early morning hours.

In an effort to avoid a Section 4(f) use of the trails at 11400 South, the project team considered completely spanning the trails with the new bridge. In order not to take any of the 4(f) resource, the vertical alignment of 11400 South would have to be raised at River Front Parkway to accommodate the structure depth, either forcing the closure of River Front Parkway or making it a grade separated facility with 11400 South spanning over it. Closing River Front Parkway would reduce the forecasted mobility improvements from the Build Alternatives, would increase the number of required relocations by seven, would have greater visual impacts, and would impact emergency response times. Because of these impacts, this option for total avoidance of the 4(f) resource was not considered prudent and feasible. In addition, because the current planned design of the bridge would preserve the existing and planned trails, there would be little practical difference in impacts between it and a span bridge.

Additional measures to minimize harm to the Parkway Trail included reducing the roadway cross-sections at the bridges by narrowing the median and shoulder, and assuring that the trail function would be maintained at all river crossings.

URMCC Migratory Bird Habitat Restoration Project

Because URMCC property is located on both the north and south side of 10600 South at the Jordan River, this property cannot be avoided. Measures to minimize harm to this property included expanding to the south, as requested by URMCC. This avoids more valuable wetlands located on the north side of the road.

Jordan River Rotary Park & I-15 Wetland Mitigation Site/ Wildlife Preservation Area

Jordan River Rotary Park and the I-15 Wetland Mitigation Site/Wildlife Preservation Area are located across from each other on either side of 12300 South, which would be widened under Alternatives 1 and 3A. Therefore, Section 4(f) resources could not

be avoided at this location by shifting the roadway alignment. To minimize impacts to both resources, the cross section of 12300 South in the vicinity of the Jordan River Rotary Park was reduced. The shoulder was narrowed from 10 feet to 4 feet, the median was reduced from 14 feet to 8 feet, the park strip was eliminated, and the sidewalk was increased to 6 feet. Due to the short distance of this cross section reduction, no safety concerns are anticipated. The minimum 4-foot bike lane would be available and the reduced median would only occur over the bridge where there would be no turning movements. By reducing the cross section, impacts to the I-15 mitigation site have been eliminated and the impacts to the Rotary Park were reduced to just under 0.3 acres. Use of the park area was chosen over use of the mitigation site because this avoids additional wetlands impacts associated with the mitigation site on the south side of the roadway.

Galena Hills Community Park

The Galena Hills Community Park property is located at approximately 12400 South, directly west of the UPRR railroad tracks at 450 West. The railroad shoofly needs to be constructed adjacent to the railroad. Constructing the shoofly on the east side of the railroad would result in a parcel take of the historic Section 4(f) resource at 390 West 12300 South and the relocation of two commercial businesses. Taking the historic property and relocating the businesses was not considered prudent and feasible as a way of avoiding impacts to the Galena Hills Community Park at this location, particularly since the shoofly would only be temporary and the Park could be completely returned to its planned use after the shoofly was reclaimed, whereas the parcel take and business relocations would cause permanent impacts and disruption.

Riverton City Skate Park

An alignment shift on 12600 South to avoid taking part of this park and its safety buffer was considered but was determined not to be

prudent. Shifting the roadway to the north would result in impacts to other Section 4(f) resources, i.e., the relocation of three historic properties on the north side of the road. In addition, seven residential relocations would be required on the north side of the road, although three residential relocations on the south side of the road would be avoided. Eliminating the park strip or reducing the shoulder would not increase the safety buffer. The median also could not be reduced at this location because of park access requirements. UDOT would work with Riverton to use fencing, a wall or other means to address safety concerns at the park.

5.6.2 Historic Resources

As part of this Section 4(f) evaluation, reducing the length of roadway widening along 10400/10600 South was considered as a means of avoiding impacts to Section 4(f) historic resources. Widening just from River Front Parkway to Jordan Gateway, instead of from Redwood Road to Jordan Gateway would also address South Jordan's concerns about further widening of 10400/10600 South. A travel analysis was done for each of the Alternatives to determine the effect on mobility improvements from such a reduction.

Alternatives 1 and 3A would widen 10400/10600 South from Jordan Gateway to Bangerter Highway. The travel analysis indicates that reducing the distance that the roadway would be widened along this corridor would significantly reduce the mobility improvements provided by these alternatives such that they would no longer meet the project purpose and need. Therefore this was not considered prudent and feasible.

Alternatives 4 and 7 would widen 10400/10600 South from Jordan Gateway to Redwood Road. The traffic analysis evaluated the mobility impacts of reducing the widening so that it would extend west from Jordan Gateway only to River Front Parkway, rather than to Redwood Road. This reduced widening was considered

because it would result in three less Section 4(f) impacts. For Alternative 4, this would cause one more intersection to fail during peak periods in the design year 2030 (four failing intersections compared to seven failing intersections for the No Build alternative). There would be minimal impacts on travel times within the study area. Widening to Redwood Road would result in a 31.1 percent travel time reduction in the study area over the No Build Alternative, compared to a 30.7 percent reduction if the widening were just to extend to River Front Parkway. The travel time reduction to the interstate would be reduced from 23.0 percent to 22.2 percent. It was determined that with this modification, Alternative 4 would still meet the project purpose and need for mobility improvement in the study area. Therefore, as it would result in three less Section 4(f) impacts, this reduced widening was incorporated into Alternative 4.

Similar to Alternative 4, one additional intersection would fail under Alternative 7 due to the shortened widening of 10600 South. However, with this reduction Alternative 7 would provide only one intersection improvement over the No Build Alternative, and travel time reduction in the study area to the interstate would only be 4.8% better than the No Build Alternative. It was determined that modifying Alternative 7 to avoid several Section 4(f) properties would not be prudent and feasible as this alternative would no longer meet project purpose and need for improving mobility within the study area.

Other measures to minimize harm to historic properties included alignment shifts and cross section reductions at the property location. For historic structures that could not be avoided, UDOT would attempt to market them with protective historic covenants as discussed later in this section. The canals and railroad tracks affected by the Build Alternatives are linear features, running perpendicular to the roadway corridors proposed for construction/reconstruction. Therefore, there would be no way to

avoid these properties by either shifting the roadway alignment or minimizing the roadway cross sections. However, a number of historic homes could be avoided by these measures. The following sections discuss which properties could or could not be avoided and the reasons why. The historic properties that could not be avoided by either alignment shifts or cross section reductions are shown in Figures 5-9a through 5-9l at the end of the chapter. Table 5-6 summarizes the measures taken to minimize or avoid each historic property.

Table 5-6.
Avoidance and Minimization Measures by Historic Property

Address	Measures Taken
1836 West 10400 South	Shifted to avoid
1476 West 10400 South	Reduced cross-section to minimize impacts
1402 West 10400 South	Shifted to avoid
1350 West South Jordan Parkway*	Shifted to avoid
3244 West 11400 South	Shifted to avoid
3113 West 11400 South	Reduced cross-section to minimize impacts
11323 South 2700 West	Reduced cross-section to minimize impacts
11395 South Redwood Road* (aka 11389 South Redwood Road, 11367 South Redwood Road, 11369 South 1700 West)	Reduced cross-section to minimize impacts
11386 South 1300 West	Reduced cross-section to minimize impacts
1327 West 11400 South (aka 1323 West 11400 South)	Reduced cross-section to minimize impacts
11407 South 1300 West**	Parcel Take (Alt 1, 4, 7)
11450 South 800 West (aka 11450 South 700 West)	Reduced cross-section to minimize impacts
455 West 11400 South (aka 437 West 11400 South)	Shifted to avoid

434 West 11400 South	Could not reduce cross-section to minimize strip take
170-260 West 11400 South Fairbourn Historic District	Reduced cross-section to minimize impacts. Strip take (Alt 3A), Parcel take (Alt 1, 4, and 7)
Bridge over the Jordan and Salt Lake City Canal	Parcel Take (Alt 1, 4, and 7)
12653 South 3600 West	Shifted to avoid
2779 West 12600 South	Parcel Take (Alt 1 and 3A)
2630 West 12600 South	Reduced cross-section to avoid
2487 West 12600 South	Shifted to avoid
2431 West 12600 South	Shifted to avoid
2395 West 12600 South (aka 2295 West 12600 South)	Shifted to avoid
2314 West 12600 South	Shifted to avoid
1604 West 12600 South	Shifted to avoid
1526 West 12600 South	Shifted to avoid
1512 West 12600 South	Shifted to avoid
1396 West 12600 South**	Reduced cross-section to avoid
736 West 12300 South	Parcel Take (Alt 1 and 3A)
692 W 12300 S (aka 691 W 12300 S)	Reduced cross-section to avoid
681 West 12300 South	Reduced cross-section to avoid
675 West 12300 South	Shifted to avoid
611 West 12300 South	Shifted to avoid
390 W 12300 S (aka 438 W 12300 S)	Reduced cross-section to avoid
274 W 12300 S (aka 270 W 12300 S)	Shifted to avoid
191 West 12300 South	Parcel Take (Alt 1 and 3A)
11687 South State Street	Reduced cross-section to minimize impacts
11613 South State Street	Reduced cross-section to min impacts
11450 South State Street	Not impacted
11550 South 260 West	Reduced cross-section to avoid

* - Property identified as locally significant by South Jordan City

** Property identified as locally significant by Riverton City

Alignment Shifts

Slight shifts in the alignment were made under each of the Build Alternatives to avoid as many Section 4(f) resources as possible. The following historic properties that exist along the roadway corridors affected by one or more of the Build Alternatives were avoided by shifting the roadway alignment:

- 1836 West 10400 South (*Alternatives 1 and 3A*)
- 1402 West 10400 South (*Alternatives 1, 3A, 4, and 7*)
- 1350 W. South Jordan Parkway (*Alternatives 1, 3A, 4, and 7*)
- 3244 West 11400 South (*Alternatives 1, 4, and 7*)
- 455 West 11400 South (*Alternatives 1, 4, and 7*)
- 12653 South 3600 West (*Alternatives 1 and 3A*)
- 2487 West 12600 South (*Alternatives 1 and 3A*)
- 2431 West 12600 South (*Alternatives 1 and 3A*)
- 2395 West 12600 South (*Alternatives 1 and 3A*)
- 2314 West 12600 South (*Alternatives 1 and 3A*)
- 1604 West 12600 South (*Alternatives 1 and 3A*)
- 1526 West 12600 South (*Alternatives 1 and 3A*)
- 1512 West 12600 South (*Alternatives 1 and 3A*)
- 675 West 12300 South (*Alternatives 1 and 3A*)
- 611 West 12300 South (*Alternatives 1 and 3A*)
- 274 West 12300 South (*Alternatives 1 and 3A*)

One of the properties that was avoided, at 1350 W. South Jordan Parkway, was among the properties identified by South Jordan City as having particular local significance.

Shifts were considered under each of the Build Alternatives to avoid the remaining historic properties but were determined not to be prudent and feasible for the following reasons.

1476 West 10400 South (*Alternatives 1, 3A, and 7*) – Shifting the roadway alignment to the south to avoid this historic property would require the relocation of a church, three homes, and two businesses but would reduce relocations by two homes on the north side. Instead, the cross section was reduced at this location as described in the Reduced Cross Sections discussion below. This resulted in two relocations and a strip take of the historic property.

3113 West 11400 South (*Alternatives 1, 4, and 7*) – Shifting the roadway alignment to the north to avoid this historic property would require a strip take of another historic property. Instead, the cross section was reduced at this location as described in the Reduced Cross Sections discussion below. This resulted in a strip take of this historic residential property.

11323 South 2700 West (*Alternatives 1, 4, and 7*) – Shifting to avoid this long strip take would mean the relocation of nine homes on the south side of the road. It was determined to be prudent to avoid the multiple relocations and minimize community disruption and cost in favor of the strip take of this historic residential property.

11395 South Redwood Road (*Alternatives 1, 4, and 7*) – Shifting the roadway alignment to the south to avoid this historic property would require the relocation of two businesses and four homes. This historic property, identified by South Jordan as locally significant, is located on the corner of a major intersection and shifting at this location would compromise roadway design of the intersection. Instead, the cross section was reduced at this location as described in the Reduced Cross Sections discussion below. This resulted in a strip take of this property.

11386 South 1300 West, 11407 South 1300 West, and 1323 West 11400 South (Alternatives 1, 4, and 7) – This conglomerate of historic properties is unavoidable with any alignment shift. Historic properties are located on both the north and south sides of the road and on 1300 West in the direct path of 11400 South. The proposed alignment would result in the relocation of 11407 South, a property identified as locally significant by South Jordan City, and two strip takes.

11450 South 800 West (Alternatives 1, 4, and 7) – Shifting to avoid this long strip take would mean the relocation of five homes on the north side of the road. It was determined it was not prudent to avoid this strip take by causing multiple relocations and community disruption.

434 West 11400 South (Alternatives 1, 4, and 7) – There are historic properties on both sides of the roadway at this location. The proposed design requires a strip take of property on the north side of the road, while avoiding a larger strip take of the historic property on the south side of the road. The proposed alignment also avoids an additional home relocation on the south side of the road.

Fairbourn Historic District (Alternatives 1, 3A, 4, and 7) – The historic district includes property on all four corners of the 11400 South intersection with Jordan Gateway/Lone Peak Parkway. There is no alignment shift that would completely avoid this district. Alternatives 1, 4, and 7 would affect this property along 11400 South. Alternatives 3A and 7 would affect this property along Jordan Gateway/Lone Peak Parkway. Cross section reductions considered at this location are discussed in the Reduced Cross Section discussion below.

Bridge over Jordan and Salt Lake City Canal (Alternatives 1, 4, and 7) – Shifting to avoid this historic bridge or reducing the cross section to minimize impacts to this bridge was not possible as the

bridge is the entire width of the 11400 South roadway at approximately 200 West. The proposed alignment would result in the removal of this historic bridge. (Figure 5-9h)

2779 West 12600 South (Alternatives 1 and 3A) – Shifting to avoid this historic commercial structure at 2779 West would require the relocation of two commercial properties on the opposite side of the road. Qwest has an approximate relocation price of \$6 million; the other property is a Blockbuster Video store. It was determined that in light of the significant cost, economic impact and community disruption of relocating these commercial properties, their avoidance was not a prudent alternative to relocation of the historic structure.

2630 West 12600 South (Alternatives 1 and 3A) – The roadway was shifted to minimize impacts to this parcel. Further shifting would compromise the intersection design of the 12600 South and 2700 West intersection. Instead, the cross section was reduced at this location as described in the Reduced Cross Sections discussion below and the property was avoided.

1396 West 12600 South (Alternatives 1 and 3A) – This parcel was identified by Riverton as being of local significance. The roadway was shifted to minimize impacts to this parcel. Further shifting would compromise roadway design and safety by eliminating the required tangent length prior to the approaching curve located east of the parcel. Instead, the cross section was reduced at this location as described in the Reduced Cross Sections discussion below and the property was avoided.

736 West 12300 South, 692 West (aka 691 West) 12300 South, and 681 West 12300 South (Alternatives 1 and 3A) – There are historic properties on both sides of the roadway at this location. Therefore, an alignment shift to avoid historic properties is not feasible. However, the cross section was reduced at 692 West and 681 West to avoid these two properties as described in the

Reduced Cross Sections discussion below. The property at 736 West could not be avoided.

390 West 12300 South (Alternatives 1 and 3A) – The roadway was shifted to minimize impacts on this parcel strip take. Shifting to completely avoid the property would mean that two currently avoided historic parcels (675 West 12300 South and 611 West 12300 South) would be impacted. It would also increase the ROW impacts on two other historic properties located to the west (681 West 12300 South and 692 West 12300 South). Instead, the cross section was reduced at this location to avoid this property as described in the Reduced Cross Sections discussion below.

191 West 12300 South (Alternatives 1 and 3A) – Shifting the alignment to the north to avoid this parcel take would require the relocation of one business and one residence. An alignment shift would also compromise the intersection configuration of Lone Peak Parkway and 12300 South. This was not considered prudent and feasible.

11687 South State Street and 11613 South State Street (Alternative 1) – An alignment shift to avoid these two strip takes would compromise the intersection configuration at 11800 South and State Street. In addition, it would require the relocation of four businesses. This was not considered prudent and feasible.

11550 S 260 W (Alternatives 3A and 7) – This is a strip take. An alignment shift at this location would compromise the intersection configuration at Jordan Gateway and 11400 South. Instead, the cross section was reduced at this location as described in the Reduced Cross Sections discussion below to avoid this property.

Reduced Cross Section

Where it was not considered prudent and feasible to shift the alignment to avoid a historic property, further evaluation was conducted to determine if reducing the typical cross section would

be possible. Reductions included reducing or eliminating the park strip and reducing the shoulder where necessary. Where the park strip is eliminated, the sidewalk has been widened from 5 feet to 6 feet in accordance with AASHTO guidelines for pedestrian facilities (AASHTO 2001a). In no case was the shoulder reduced to less than 4 feet, as that width is required to accommodate the Class 2 bike lanes. In areas where there were access issues, the shoulder was not reduced to less than 8 feet. Due to the short distances that the cross section reductions would occur, no safety concerns are anticipated.

The following historic properties that exist along the roadway corridors affected by one or more of the Build Alternatives were avoided by reducing the roadway cross section at that location:

- 2630 West 12600 South (*Alternatives 1 and 3A*) – the park strip was eliminated for a total distance of approximately 113 feet including tapers.
- 1396 West 12600 South (*Alternatives 1 and 3A*) – the park strip was reduced by 1 foot for a total distance of approximately 190 feet including tapers. This is a property identified by Riverton as being of local significance.
- 692 West 12300 South & 681 West 12300 South (*Alternatives 1 and 3A*) – the park strip was eliminated and the shoulder was reduced to 8 feet for a total distance of approximately 200 feet including tapers.
- 390 West (aka 438 West) 12300 South (*Alternatives 1 and 3A*) – the park strip was eliminated for a total distance of approximately 665 feet including tapers.
- 11550 South 260 West (*Alternatives 3A and 7*) – the park strip was eliminated and the shoulder was reduced to 7 feet for a total distance of approximately 1,280 feet including tapers.

Reduced cross sections were also considered to reduce impacts to the remaining historic properties.

- 1476 West 10400 South (*Alternatives 1, 3A, and 7*) – Twenty-seven feet of roadway cross section reduction would be required to avoid this property. By reducing the shoulder to 4 feet, the impact to this property would be reduced to 21 feet for a distance of approximately 1,180 feet. The park strip was not eliminated since South Jordan City has strongly recommended the use of green space (Figure 5-9a).
- 3113 West 11400 South (*Alternatives 1, 4, and 7*) – A maximum of 23 feet of roadway cross section reduction would be required to avoid this property. By eliminating the park strip, the impact to this property would be reduced to 20 feet for a distance of approximately 450 feet including tapers. The shoulder was not reduced since a 12-foot shoulder is required at the intersection directly west of the historic property (Figure 5-9b).
- 11323 South 2700 West (*Alternatives 1, 4, and 7*) – Thirty-four feet of roadway cross section reduction would be required to avoid this property. By eliminating the park strip, the impact to this property is reduced to 30 feet for a distance of approximately 600 feet including tapers. The shoulder was not reduced since a 12-foot right turn lane is required at the intersection of 11400 South and 2700 West, which is directly west of the parcel (Figure 5-9c).
- 11395 South Redwood Road (*Alternatives 1, 4, and 7*) – A maximum of 31 feet of roadway cross section reduction would be required to avoid this property. By eliminating the park strip, the impact to this property is reduced to a maximum of 27 feet for a distance of approximately 180 feet. The shoulder was not reduced since a 12-foot right turn lane is required at the intersection of 11400 South and Redwood Road, which is

directly west of the parcel. This property has been identified by South Jordan City as locally significant (Figure 5-9d).

- 11386 South 1300 West (*Alternatives 1, 4, and 7*) – A maximum of 35 feet of roadway cross section reduction would be required to avoid this property. By eliminating the park strip, the impact to this property is reduced to a maximum of 31 feet for a distance of approximately 435 feet. The shoulder was not reduced since a 12-foot shoulder is required at the intersection to allow for U-turns (Figure 5-9e).
- 1327 West 11400 South (aka 1323 West 11400 South) (*Alternatives 1, 4, and 7*) – A maximum of 22 feet of roadway cross section reduction would be required to avoid this property. By eliminating the park strip, the impact to this property is reduced to a maximum of 18 feet for a distance of approximately 1,082 feet. The shoulder was not reduced since a 12-foot right turn lane is required at the 11400 South and 1300 West intersection (east end) and a 12-foot shoulder is required at the intersection to the west of the property to allow for U-turns (Figure 5-9e).
- 11407 South 1300 West (*Alternatives 1, 4, and 7*) – Seventy-five feet of roadway cross section reduction would be required to avoid this property, while only 3.5 feet would be available by eliminating the park strip. This historic residence could not be avoided as it is in the direct path of the proposed 11400 South alignment. This property has been identified by South Jordan City as locally significant (Figure 5-9e).
- 11450 South 800 West (*Alternatives 1, 4, and 7*) – A maximum of 126 feet of roadway cross section reduction would be required to avoid this property. By eliminating the park strip, reducing the median to 8 feet, and reducing the shoulder to 6 feet, the impact to this property will be reduced to a maximum

of 117 feet for a distance of approximately 1,087 feet (Figure 5-9f).

- 434 West 11400 South (*Alternatives 1, 4, and 7*) – Forty-nine feet of roadway cross section reduction would be required to avoid this property, while only 7.5 feet would be available by eliminating the park strip and reducing the shoulder to 4 feet. This property is located just west of the grade-separated railroad crossing. If any reductions in cross section were made, the sight distance in the area would be compromised due to the location of retaining walls and the necessity to make a left turn eastbound from the residence. No reduction in cross section is prudent (Figure 5-9g).
- Fairbourn Historic District (*Alternatives 1, 3A, 4, and 7*) – Because this property is located on all four corners, it would not be possible to sufficiently reduce the roadway cross section to avoid this historic district. This District is located between the grade-separated railroad crossing, the Jordan Gateway/11400 South intersection and I-15 Interchange. No reduction in cross section can be made west of Jordan Gateway. The sight distance in the area would be compromised due to the location of retaining walls and access points along 11400 South. The cross section between Jordan Gateway and I-15 will be reduced by 3.5 feet on each side for approximately 860 feet on the north and 645 feet on the south. The park strip can be eliminated but the shoulder must be maintained due to the proximity to I-15 and the need for right turn lanes (Figure 5-9h).
- 2779 West 12600 South (*Alternatives 1 and 3A*) – Twenty-eight feet of roadway cross section reduction would be required to avoid this property, while only 3.5 feet would be available by eliminating the park strip. The shoulder could not be reduced since a 12-foot right turn lane is required at the

12600 South and 2700 West intersection just east of property. This historic structure could not be avoided (Figure 5-9i).

- 736 West 12300 South (*Alternatives 1 and 3A*) – Due to roadway grade and access issues at this location, it is not possible to avoid a parcel take of this historic property by reducing the cross section (Figure 5-9j).
- 191 West 12300 South (*Alternative 1*) – A maximum of 15 feet of roadway cross section reduction would be required to avoid this property. The park strip could be eliminated but the shoulder must be maintained for the right turn lane at the 12300 South and Lone Peak Parkway intersection just east of the property. The cross section reduction of 3.5 feet would not be sufficient. This historic structure could not be avoided (Figure 5-9k).
- 11687 South State Street (*Alternative 1*) – Twenty-four feet of roadway cross section reduction would be required to avoid this property. By eliminating the park strip and reducing the shoulder to 4 feet, the impact to this property was reduced to 15 feet for approximately 388 feet including tapers (Figure 5-9l).
- 11613 South State Street (*Alternative 1*) – Twenty-five feet of roadway cross section reduction would be required to avoid this property. By eliminating the park strip and reducing the shoulder to 4 feet, the impact to this property was reduced to 16 feet for approximately 698 feet including tapers (Figure 5-9l).

Marketing and Salvage

Other measures to minimize harm to historic properties that could not be avoided include attempting to market the affected property where determined marketable, and salvaging architectural elements prior to demolition. The marketing plan would include

preference for interested parties who agree to rehabilitate and/or maintain the property in accordance with the Department of Interior's recommended approaches for historic properties. If UDOT receives no offers that conform to these stipulations, they may modify the stipulations and re-offer the property or may demolish the property.

5.7 Mitigation Measures

Measures to mitigate the use of 4(f) resources will be incorporated into the project. These measures are discussed below.

Recreational and Wildlife Properties

Jordan River Parkway and Trail

In order to maintain the current and planned recreational use of the Jordan River Parkway Trail, the new bridge and roadway at 11400 South under Alternatives 1, 4 and 7 would be constructed to span the river by a sufficient distance to allow the trails to be relocated and to pass under the roadway and bridge. Trail users would pass under the bridge and continue on the trail. Similar trail underpasses are currently in place at the bridges at 10600 South and at 12300 South, and the widening of one or both of those bridges under Alternatives 1, 3A, 4 and 7 would also provide for continued use of the trail underpass. Other trail underpasses have been completed north of the study area at I-215, 7200 South, and 5300 South.

The new roadway bridge at 11400 South would be painted a natural color to blend in with the surrounding vegetation. All disturbed areas within the parkway would be revegetated with native vegetation.

South Jordan City has been planning to construct a pedestrian crossing of the Jordan River at approximately 11200 South. Rather than having two new river crossings in this area, UDOT has been working with South Jordan City to incorporate a

pedestrian bridge into the proposed new 11400 South roadway crossing. The pedestrian bridge would allow pedestrians, bicyclists, and equestrians to cross the Jordan River at 11400 South. The pedestrian bridge would be at a lower level than the roadway in order to allow separation from traffic. The pedestrian bridge would tie into existing elements of the Jordan River Parkway Trail on the east side of the river and the trail planned by Draper on the east side of the river, providing a linkage between trails on the east side of the river and trails on the west side of the river.

A stormwater detention basin adjacent to the new bridge would be designed to be more aesthetically pleasing. This could be done by constructing the pond with a natural shape (not rectangular), a stair-step approach with smaller ponds within a larger pond system, and by planting vegetation around the pond for storm control.

URMCC Migratory Bird Habitat Restoration Project

UDOT has coordinated with URMCC regarding the potential impacts to their property at 10600 South. URMCC has indicated to UDOT that they would prefer compensation for the impacted property at 10600 South in the form of land or services. UDOT will work with URMCC during the right-of-way acquisition process to determine the appropriate compensation/mitigation.

Jordan River Rotary Park

Mitigation measures to reduce the proximity impacts to the Jordan River Rotary Park would include fencing along the 12300 South roadway. This would reduce the chances of recreational objects entering the roadway.

Riverton Skate Park

Mitigation measures at the Riverton Sate Park would include working with Riverton City to construct fencing along the northern

park boundary. This would eliminate the possibility of skaters entering the roadway.

Galena Hills Community Park

Mitigation measures at the Galena Hills Community Park would include replacing all affected park amenities after roadway construction is complete and the temporary railroad shoofly has been removed.

Historic Properties

Mitigation measures incorporated into the proposed action include:

A Memorandum of Agreement (MOA) has been developed and signed by FHWA, UDOT, SHPO, and consulting parties for the Preferred Alternative. A copy of the signed MOA is included in the updates to Appendix B. Mitigation measures in the MOA include documenting adversely affected historic properties with full Intensive Level Surveys (ILS), marketing the adversely affected properties where determined marketable, salvaging architectural elements of affected properties prior to demolition, and providing for compensatory mitigation if marketing the structure is not feasible and prudent. If another Build Alternative is selected, a new MOA that contains similar mitigation measures to address the specific resources affected by that alternative would be developed and signed prior to project construction. Any MOA would be coordinated with Draper, Riverton, Sandy and South Jordan cities, as applicable, to develop meaningful mitigation measures for the eligible properties that cannot be avoided.

If any cultural resources are encountered during construction, construction would immediately be stopped in the vicinity of the discovery, and any materials would be evaluated in accordance with UDOT Standard Specification 01355, Part 1.10.

5.8 Summary of 4(f) Impacts

Based on the above considerations, there is no feasible and prudent alternative that will avoid all Section 4(f) resources. All four of the Build Alternatives will directly use recreational, wildlife, and historic Section 4(f) properties. Provided below is a summary and comparison of the Section 4(f) uses under the various Build Alternatives after the application of avoidance, minimization, and mitigation measures discussed above.

5.8.1 Summary of Section 4(f) Recreational and Wildlife Resource Impacts by Alternative

Alternative 1 would impact Section 4(f) recreational or wildlife resources at seven locations, resulting in **five Section 4(f) uses**. It would lengthen the distance that the Jordan River Parkway Trail would be covered by the existing bridges at 10600 South and at 12300 South, and would include a minor relocation and a new bridge crossing of the trail at 11400 South. This would cause increased traffic noise to trail users at each of the three locations, and would add visual impacts at 11400 South, but would not be expected to decrease trail use or significantly degrade user experience at any of the locations. Disruption of trail use during construction would be avoided at all three sites through the use of temporary detours or limiting any closures to hours when trail use is essentially non-existent. There would be impacts but no Section 4(f) use of the trail at 10600 and 12300 South.

The 11400 South crossing would incorporate into the new roadway approximately 0.07 acres of Section 4(f) land where the trails are currently located, although those lands would effectively be replaced by lands at the relocated trail location that are currently not considered 4(f) lands by the Division of Parks and Recreation. Nonetheless, this is considered a Section 4(f) use. The new roadway bridge would provide residents on the east side

of the river with greater access to recreational facilities in place on the west side near 11400 South, such as the Midas Creek Fishing Ponds and River Front Park. Without the new bridge, residents on the east side of the river have to travel north to 10600 South or south to 12300 South to access these recreation areas.

This alternative would also include a Section 4(f) use 0.15 acres of the URMCC habitat restoration project property at 10600 South and the Jordan River.

This alternative would also entail a long-term (one year) temporary occupancy of 6 acres of the planned Galena Hills Community Park along 12300 South in Draper as a result of the railroad shoofly. The shoofly would directly impact various park amenities planned for construction beginning in 2005, including soccer fields, tennis courts, basketball courts, a volleyball court and a playground, for an approximately one-year period, and is considered a significant impact to the park by Draper City and thus a Section 4(f) use.

This alternative would also include a Section 4(f) use of approximately 0.08 acres of land along the widened 12600 roadway at 1450 West that is part of the Riverton City Skate Park. This would reduce the safety buffer zone at the north end of the Park, which would be mitigated by use of a fence, wall or other method acceptable to Riverton to prevent skaters from accidentally entering the roadway.

This alternative would also include a Section 4(f) use of a 0.3-acre strip of the Jordan River Rotary Park that would be incorporated into the roadway due to widening of 12300/12600 South. This strip does not contain any current or planned developed park facilities, but the widened roadway would cause proximity impacts, primarily noise and increased safety risks, to a planned basketball court, equestrian trail, and picnic area, and might require a change in the location of these facilities and an overall compression of facilities within the park.

Alternative 3A would cause impacts to Section 4(f) recreational and wildlife resources at six locations, resulting in **four Section 4(f) uses**. This would include all of the same impacts, uses and locations as Alternative 1 except that the new bridge crossing and the Section 4(f) use from the minor relocation of the Jordan River Parkway Trail (pedestrian/bicycle and equestrian trails) at 11400 South, and accompanying noise and visual impacts, would not occur.

Alternative 4 would cause impacts to Section 4(f) recreational and wildlife resources at three locations, resulting in **two Section 4(f) uses**. These would be the same impacts and use of the Jordan River Parkway Trail as would occur under Alternative 1 at 10400/10600 South and 11400 South, and at the URMCC habitat restoration property site. There would be no Section 4(f) use or proximity impacts to the Jordan River Rotary Park, the Jordan River Parkway Trail, or the Galena Hills Community Park along 12600/12300 South in Draper, or to the Riverton Skate Park along 12600 South in Riverton.

Alternative 7 would cause impacts to f Section 4(f) resources at three locations, resulting in **two Section 4(f) uses**. These would be the same impacts and locations as under Alternative 4.

5.8.2 Comparison of Section 4(f) Recreation and Wildlife Resource Uses

In terms of the number of Section 4(f) recreational and wildlife properties that would incur uses, Alternatives 4 and 7 are preferable because they would result in use of three less park properties than Alternative 1 and two less park properties than Alternative 3A. While the number of impacted properties is perhaps the most important factor for comparison purposes, the relative significance of the impacts, to the extent it could be reasonably characterized, was also considered.

The two Section 4(f) uses that would occur under Alternatives 1 and 3A but not under Alternatives 4 and 7 -- i.e., the direct and permanent use of approximately 0.3 acres and 0.1 acres of park property, respectively, at the Jordan River Rotary Park (Draper) and the Riverton City Skate Park, with proximity impacts to the existing and planned park amenities at both locations, and the long term (one year) temporary use of 6 acres of park property at the Galena Hills Community Park (Draper), with impacts to several planned park facilities, would have impacts that the entities with jurisdiction consider to be significant and inconsistent with their park plans (see September 8, 2004 letter from Draper City to UDOT and September 9, 2004 letter from Riverton to UDOT in Appendix D).

The one Section 4(f) use that would occur under Alternatives 1, 4 and 7 but not under Alternative 3A, i.e., the minor relocation of the existing Jordan River Parkway Trail (bicycle/pedestrian and equestrian trails) at a new road crossing at 11400 South, and a new bridge crossing over the relocated trail, would introduce a new covered crossing and new noise and visual impacts to the users of the trail. As long as the new bridge and trail crossing is appropriately designed, however, to accommodate the existing and planned trails and to create a new access point to the trails from the east side of the river, the agencies with jurisdiction (Division of Parks and Recreation, South Jordan and Draper) do not consider the crossing to have significant recreational impacts or to be inconsistent with their plans for the Jordan River Parkway or Trail (see September 28, 2004 letter from Division of Parks and Recreation to UDOT, September 8, 2004 letter from Draper City to UDOT, and July 13, 2004 letter from South Jordan to UDOT in Appendix D). Nor is this crossing expected to significantly impair or reduce use of the trail. Thus, this use is considered not as significant or harmful as the uses of the Jordan River Rotary Park, the Riverton City Skate Park, or the Galena Hills Community Park,

based primarily on input received from the cities and agencies with jurisdiction over these resources.

Based on this comparison, the Build Alternatives with the least use of and harm to Section 4(f) recreational and wildlife resources are Alternatives 4 and 7 (use of one park property by use that is consistent with State and city park plans and city transportation plans; and use of one wildlife resource). Alternative 3A has the next least impact (use of three park properties by uses that are inconsistent with park plans; and use of one wildlife resource). Alternative 1 has the most impact (use of four park properties, three with relatively significant impacts that are inconsistent with park plans, one that is with relatively insignificant and consistent with park plans; and one wildlife resource). All properties also impact the same wildlife resource at 10600 South so this resource is not a factor in the comparison.

5.8.3 Summary of Section 4(f) Historic Property Uses by Alternative

Alternative 1 would impact Section 4(f) historic resources at **32 locations**. Strip takes of various historic properties would occur at 26 locations and there would be six parcel takes.

Of the twenty-six strip takes, two would include a new or widened grade separated crossing of the UPRR at 11400 South and 12300 South, respectively. Although the UPRR as a whole is considered historic, the grade, tracks, and other features have been continually upgraded and further widening of the roadway would not be considered a significant impact to this historic resource. Fourteen of the strip takes would include widening twelve existing road crossings and adding two new road crossings over six different historic canals and ditches (five crossings along 12300/12600 South, six crossings along 11400 South, and three crossings along 10400 South). The road widening over the canals would not be considered significant as the crossings already exist

and the widening would not affect the historic integrity of the canals. The two new crossings would include the abandoned Galena Canal at 11400 South, which is no longer used for its intended purposes, and the Beckstead Ditch, which is piped and buried at the new 11400 South crossing location. Neither of these new crossings would be considered a significant impact. Ten of the strip takes would include land associated with historic standing structures determined eligible for the NRHP. Of these ten properties, one has been identified as locally significant by South Jordan City (11395 South Redwood Road). A 15-foot strip along the north side of this property would be required for the 11400 South roadway widening.

Of the six parcel takes required, one would be the historic canal bridge on 11400 South, three would be historic structures located along 12300/12600 South, one would be the “half house” at 11407 South 1300 West, and one would be properties located within the Fairbourn Historic District. The three historic structures along 12300/12600 South are currently in use and are in fairly good condition. The half-house has been identified as locally significant by South Jordan City. The former resident has recently moved from the home and the future status of the home is uncertain. Three homes within the Historic District would be removed as part of this alternative. However, these homes have all been vandalized and two are in major disrepair. One of these properties was previously determined ineligible for the NRHP but was reevaluated as eligible only after it was vandalized and the alterations that had caused it to become ineligible were removed. Both Draper City and South Jordan City have development planned for the Fairbourn Historic District property and it is unlikely these structures would remain even without a roadway widening along 11400 South.

Alternative 3A would impact Section 4(f) historic resources at **17 locations**. Strip takes of various historic properties would occur at 14 locations and there would be three parcel takes.

Of the 14 strip takes, two would include a new or widened grade separated crossing of the UPRR at Jordan Gateway and 12300 South, respectively. As discussed above, because of the continual maintenance of the railroad, the impacts to the UPRR would not be considered significant. Ten of the strip takes would include widening existing road crossings of five historic canals (five along 12300/12600 South, two along Lone Peak Parkway, and three along 10400 South). The widenings would not be considered significant impacts. Two of the strip takes would include land associated with historic standing structures determined eligible for the NRHP. Neither of these properties have been identified as locally significant by Draper or South Jordan City. One strip take would include the Fairbourn Historic District, with strip takes required on all four corners of 11400 South and Jordan Gateway/Lone Peak Parkway.

The three parcel takes required would be historic structures located along 12300/12600 South. None of these have been identified as locally significant by Draper or Riverton City. However, these structures are currently occupied and in relatively good condition.

Alternative 4 would impact Section 4(f) historic resources at **18 locations**. Strip takes of various historic properties would occur at 15 locations and there would be three parcel takes.

Of the 15 strip takes, one would include a new grade separated crossing of the UPRR at 11400 South. As discussed above, because of the continual maintenance of the railroad, the impacts to the UPRR would not be considered significant. Seven of the strip takes would include widening existing road crossings and adding new crossings of six historic canals and ditches along

11400 South. The road widening over the canals would not be considered significant as the crossings already exist and the widening would not affect the historic integrity of the canals. The two new crossings would include the abandoned Galena Canal at 11400 South, which is no longer used for its intended purposes, and the Beckstead Ditch, which is piped and buried at the new 11400 South crossing location. Neither of these new crossings would be considered a significant impact. Seven of the strip takes would include land associated with historic standing structures determined eligible for the NRHP. Of these seven properties, one has been identified as locally significant by South Jordan City (11395 South Redwood Road). A 15-foot strip along the north side of this property would be required for the 11400 South roadway widening.

Of the three parcel takes required, one would be a historic canal bridge on 11400 South, one would be the “half house” at 11407 South 1300 West, and one would be properties located within the Fairbourn Historic District. The half-house has been identified as locally significant by South Jordan City. Similar to Alternative 1, three homes within the Fairbourn Historic District would be removed as part of this alternative. As mentioned previously, these homes have all been vandalized and two are in major disrepair. Both Draper City and South Jordan City have development planned for the historic district property and it is unlikely these structures would remain even without a roadway widening along 11400 South.

Alternative 7 would impact Section 4(f) historic resources at **23 locations**. Strip takes of various historic properties would occur at 20 locations and there would be three parcel takes.

Of the 20 strip takes, two would include a new grade-separated crossing of the UPRR at 11400 South and Jordan Gateway. As discussed previously, because of the continual maintenance of the

railroad, the impacts to the UPRR would not be considered significant. Ten of the strip takes would include widening existing road crossings and adding new crossings of six historic canals and ditches (two along Lone Peak Parkway, six along 11400 South, and two along 10400 South). The road widening over the canals would not be considered significant as the crossings already exist and the widening would not affect the historic integrity of the canals. The two new crossings would include the abandoned Galena Canal at 11400 South, which is no longer used for its intended purposes, and the Beckstead Ditch, which is piped and buried at the new 11400 South crossing location. Neither of these new crossings would be considered a significant impact. Eight of the strip takes would include land associated with historic standing structures determined eligible for the NRHP. Of these eight properties, one has been identified as locally significant by South Jordan City (11395 South Redwood Road). A 15-foot strip along the north side of this property would be required for the 11400 South roadway widening.

The three parcel takes required would be the same as those required under Alternative 4.

5.8.4 Comparison of Section 4(f) Historic Property Uses

As stated previously in Section 5.4.2, parcel takes are considered an Adverse Effect by the SHPO and therefore constitute a significant impact to historic properties. In terms of the number of Section 4(f) historic properties that would incur uses, Alternatives 3A, 4, and 7 would each have three significant impacts to Section 4(f) historic resources, while Alternative 1 would have six significant impacts. Alternative 3A would have one less strip take than Alternative 4, six less strip takes than Alternative 7, and twelve less strip takes than Alternative 1. However, the strip takes in general would not diminish the architectural character of the eligible historic structures. None of the strip takes would result in

the alteration of the characteristics that qualify the subject properties for listing on the National Register in a manner that would diminish any of the relevant aspects of integrity. Therefore, since Alternatives 3A, 4, and 7 each have the same number of parcel takes, the discussion of relative significance below focuses on the importance of each historic parcel used among these alternatives.

Alternatives 1, 4, and 7 all significantly impact the half-house located at 11407 South 1300 West. This house has been identified by South Jordan City as locally significant to the community. According to the Riverton City CLG, this structure was moved to its present location from Riverton City in the 60's as a result of a divorce settlement. The rest of the house is still intact and located along Redwood Road, south of the study area. This house is not currently occupied and its future status is uncertain.

Alternatives 1, 4, and 7 would result in the removal of the historic canal bridge at 200 West 11400 South. As part of the mitigation plan for this bridge, UDOT would attempt to market the bridge to interested parties who would agree to rehabilitate or maintain the property in accordance with the Department of Interior's recommended approaches for historic properties.

All four Build Alternatives would impact the Fairbourn Historic District. Alternative 3A would consist of a strip take of this district property at four locations. Alternatives 1, 4, and 7 would require the removal of the three eligible historic homes within the district. As mentioned above, these homes, which are owned by UDOT, are in various states of disrepair and it is unlikely that they would remain under any alternative as both South Jordan and Draper City have major development plans for this area. Under any alternative selected, UDOT would attempt to market the properties with historic protection covenants. The marketing plan would include preference for interested parties who agree to rehabilitate

and/or maintain the property in accordance with the Department of Interior's recommended approaches for historic properties. If UDOT receives no offers that conform to these stipulations, they may modify the stipulations and re-offer the property or may demolish the property.

Alternatives 1 and 3A would require the removal of three historic structures, one residence and two businesses, along 12300/12600 South. These structures are currently occupied and in relatively good condition.

Based on this comparison, Alternatives 3A, 4, and 7 have similar significant impacts to historic properties. While the half house has been identified as locally significant, it is currently unoccupied and its future is uncertain. All three parcel takes along 12300/12600 South are to structures that are currently being used and are in relatively good condition, though none of the properties have been identified as locally significant. Under Alternatives 1, 4, and 7, the historic canal bridge can be relocated if an interested party can be found. Under any alternative selected, UDOT would attempt to market the Fairbourn Historic District properties with historic protection covenants.

5.8.5 Overall Comparison of Section 4(f) Uses

Table 5-7 summarizes the impacts to Section 4(f) resources from each alternative. Based on the comparison of impacts, it is determined that Alternative 4 will have the least overall net harm to Section 4(f) resources in the study area. Alternatives 4 and 7 have the least net harm to recreational and wildlife 4(f) resources. Alternatives 3A, 4, and 7 have similar significant impacts to Section 4(f) historic resources. Although Alternatives 4 and 7 are similar in terms of significant 4(f) impacts, Alternative 4 has less historic strip takes than Alternative 7 and therefore has the least Section 4(f) net harm overall.

Alternatives 3A, 4, and 7 have similar significant impacts to historic properties, while Alternative 1 has the most uses. Under Alternatives 1, 4, and 7, the half house at 11407 South 1300 West, which has been identified as locally significant, would be impacted. However, it is currently unoccupied and its future is uncertain. All three parcel takes along 12300/12600 South that would occur under Alternatives 1 and 3A are to structures that are currently being used and are in relatively good condition, though none of the properties have been identified as locally significant. Under Alternatives 1, 4, and 7, the historic canal bridge could be relocated if an interested party could be found. Under any alternative selected, UDOT would attempt to market the Fairbourn Historic District properties with historic protection covenants.

The Build Alternatives with the least net harm on Section 4(f) recreational resources are Alternatives 4 and 7 (use at one park property location, with use that is consistent with State and city park plans and city transportation plans). Alternative 3A has the

next least net harm to recreational resources (use at three park property locations, that are inconsistent with park plans).

Alternative 1 has the most net harm to recreational resources (use of four park property locations, three with uses that is inconsistent with park plans, one with use that is consistent with park plans).

All of the Build Alternatives are equal in terms of impacts to wildlife resources (one use of same resource).

As stated in the FHWA *Section 4(f) Policy Paper* (March 1, 2005), if all alternatives that meet the project purpose and need use land from 4(f) resources, then an analysis must be performed to determine which alternative results in the least overall harm to the 4(f) resources. The alternative that results in the least net harm must be selected. Based on the comparison of impacts, it is determined that Alternative 4 will have the least overall net harm to Section 4(f) resources in the study area and therefore it has been selected as the Preferred Alternative in this FEIS.

**Table 5-7.
Summary of Section 4(f) Uses by Alternative**

	Alternative 1	Alternative 3A	Alternative 4	Alternative 7
Jordan River Parkway Trail at 11400 South	Minor relocation and covering of trail for 120 feet at 11400 South, and use of 0.07 acres of 4(f) property.	No 4(f) use	Minor relocation and covering of trail for 120 feet at 11400 South, and use of 0.07 acres of 4(f) property.	Minor relocation and covering of trail for 120 feet at 11400 South, and use of 0.07 acres of 4(f) property.
URMCC Habitat Restoration Site (10600 South)	Use of 0.15 acres of 4(f) property	Use of 0.15 acres of 4(f) property	Use of 0.15 acres of 4(f) property	Use of 0.15 acres of 4(f) property
Galena Hills Community Park	Use (long term occupancy) of 6 acres of planned park amenities	(Use (long term occupancy) of 6 acres of planned park amenities	No 4(f) use	No 4(f) use
Jordan River Rotary Park	Use of 0.3 acres of park and proximity impact to planned park amenities	Use of 0.3 acres of park and proximity impact to planned park amenities	No 4(f) use	No 4(f) use
Riverton Skate Park	Removal of skater safety buffer zone	Removal of skater safety buffer zone	No 4(f) use	No 4(f) use
Historic Property Parcel Takes	Requires parcel takes of two commercial and two residential historic structures and a historic canal bridge. One residential structure was identified as locally significant by South Jordan	Requires parcel takes of two commercial and one residential historic structures	Requires parcel takes of one residential historic structure and a historic canal bridge. The residential structure was identified as locally significant by South Jordan	Requires parcel takes of one residential historic structure and a historic canal bridge. The residential structure was identified as locally significant by South Jordan
Fairbourn Historic District	Will require removal of historic district properties. Draper and South Jordan plan future commercial development in the historic district.	Strip take of this historic district along Lone Peak Parkway. Historic district properties would no longer be protected under Section 4(f) as they would be out of UDOT ownership	Will require removal of historic district properties. Draper and South Jordan plan future commercial development in the historic district.	Will require removal of historic district properties. Draper and South Jordan plan future commercial development in the historic district.
Historic Property Strip Takes	Strips takes of 10 residential properties, 14 canal crossings, and 2 crossings of the UPRR	Strips takes of 2 residential properties, 10 canal crossings, and 2 crossings of the UPRR	Strips takes of 7 residential properties, 7 canal crossings, and 1 crossing of the UPRR	Strips takes of 8 residential properties, 10 canal crossings, and 2 crossings of the UPRR

5.9 Coordination

Coordination meetings and telephone conversations have been held with the property owners or representatives listed in Table 5-8. Information was provided to City and State representative regarding potential impacts to the Section 4(f) resources from the proposed EIS alternatives. Responses from the agencies regarding the significance of the resources and/or impacts are included in Appendix D – Agency Correspondence.

**Table 5-8.
Agency Coordination**

Section 4(f) Properties	Owner/Contact
Willow Creek Park	Nate Nelson, Draper City Engineer, Brad Jensen, Draper City Parks and Recreation
Jordan River Rotary Park	Brad Jensen, Draper City Parks and Recreation
South Jordan Elementary School	Herb Jensen, Jordan School District, Auxiliary Services
Galena Hills Community Park	Brad Jensen, Draper City Parks and Recreation
Riverton City Skate Park	Sheril Garn, Riverton City Recreation and Community Events Director
Study Area Historic Properties	Barbara Murphy and Cory Jensen, State Historic Preservation Office
Draper City Historic Properties	Katie Shell and Bill Moedl, Draper Historic Preservation Commission
Riverton City Historic Properties	Karen Bashore, Riverton Certified Local Government

**Table 5-8. (cont.)
Agency Coordination**

Section 4(f) Properties	Owner/Contact
Jordan River Parkway	Various - Don Davis, Trails Coordinator, Salt Lake County; John Knudsen, Trails Coordinator, State Parks and Recreation; Brad Jensen, Draper City Parks and Recreation; Ricky Horst, South Jordan City Manager; Terry Green, Utah Division of Parks and Recreation, Sheril Garn, Riverton City Recreation and Community Events Director
Sandy City Historic Properties	Brian McCuiston, Sandy Historic Commission and City Planner
South Jordan City Historic Properties	Joey Clegg, Dix McMullin, John Mabey, South Jordan History Committee
I-15 Wetland Mitigation Site/Wildlife Preservation Area; URMCC Habitat Restoration Site	John Rice, Utah Reclamation Mitigation and Conservation Commission

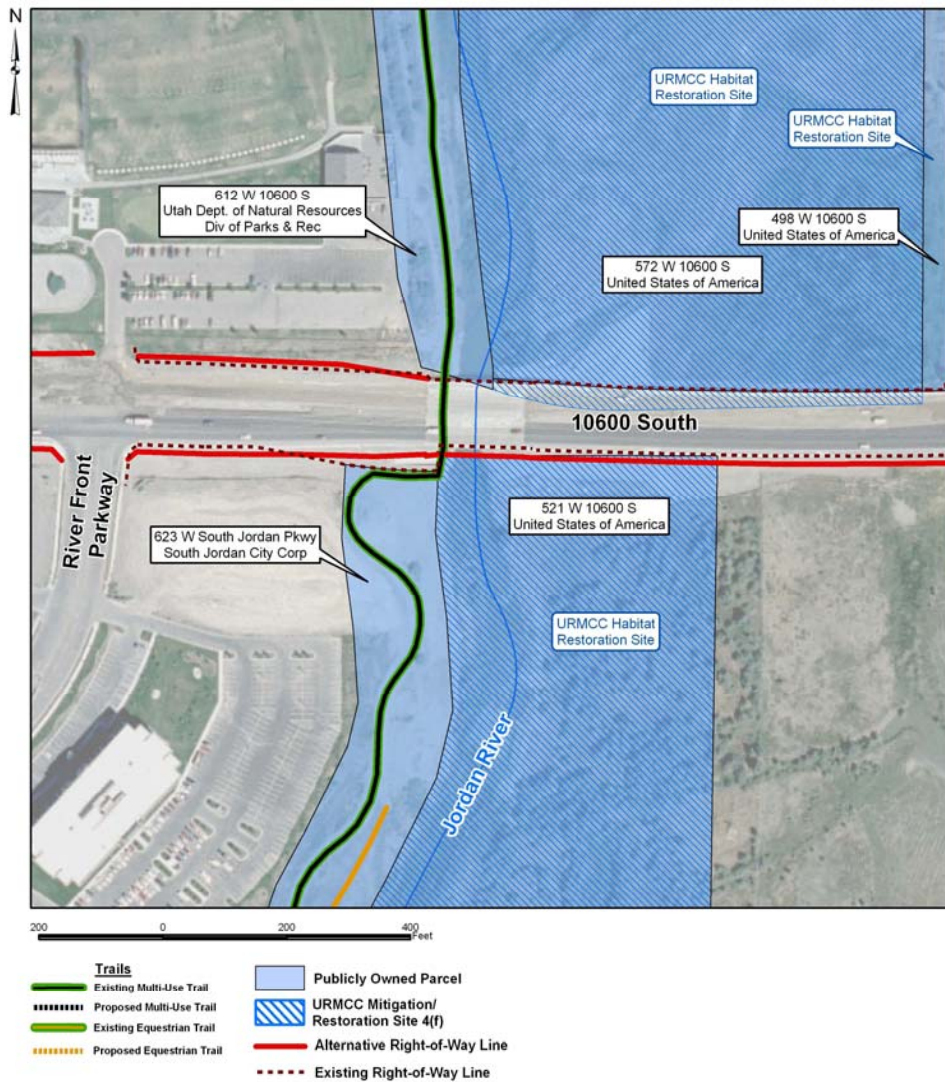


Figure 5-8a. Recreational and Wildlife 4(f) impacts at 10600 South

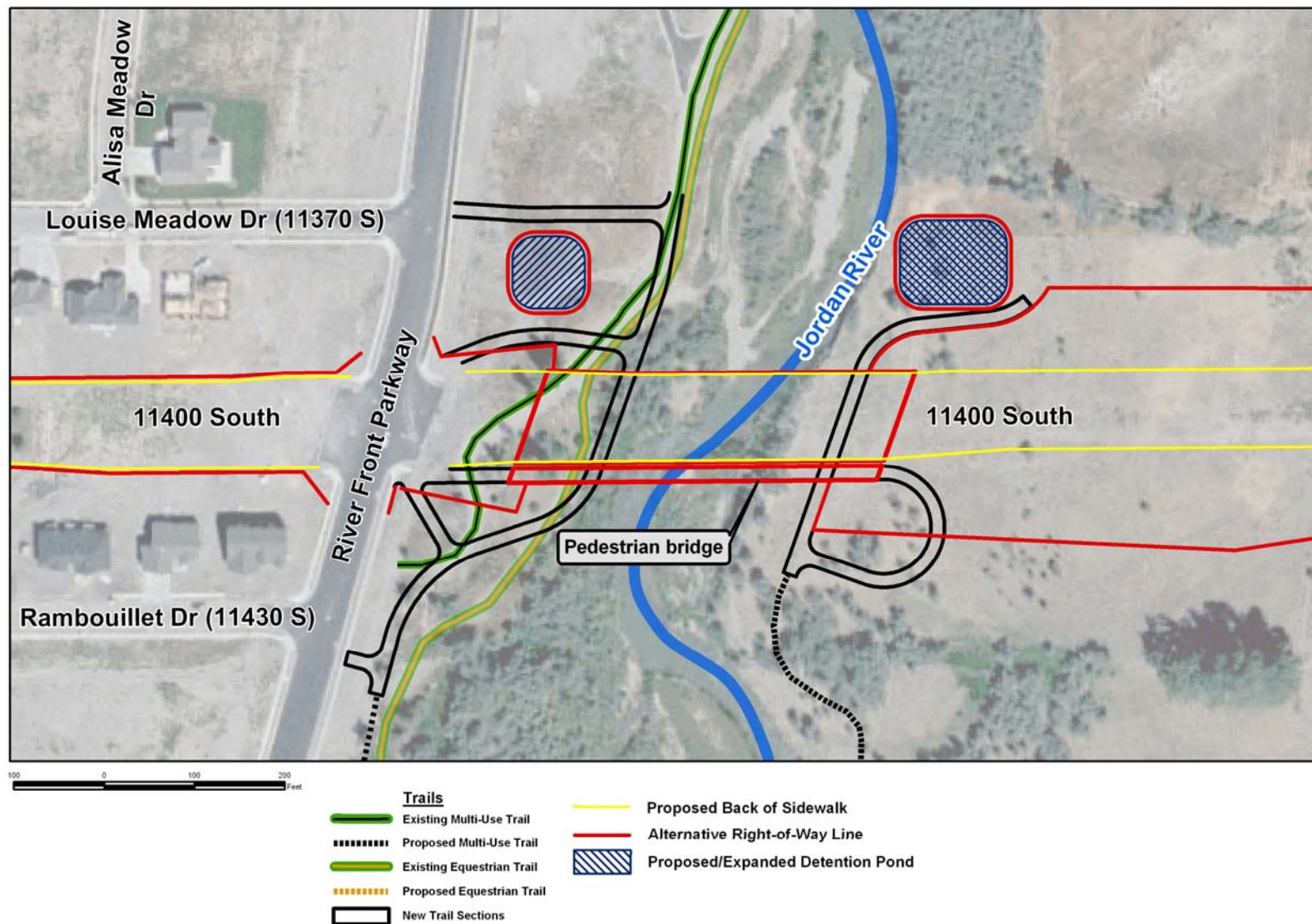


Figure 5-8b. Recreational 4(f) Resource Impacts at 11400 South



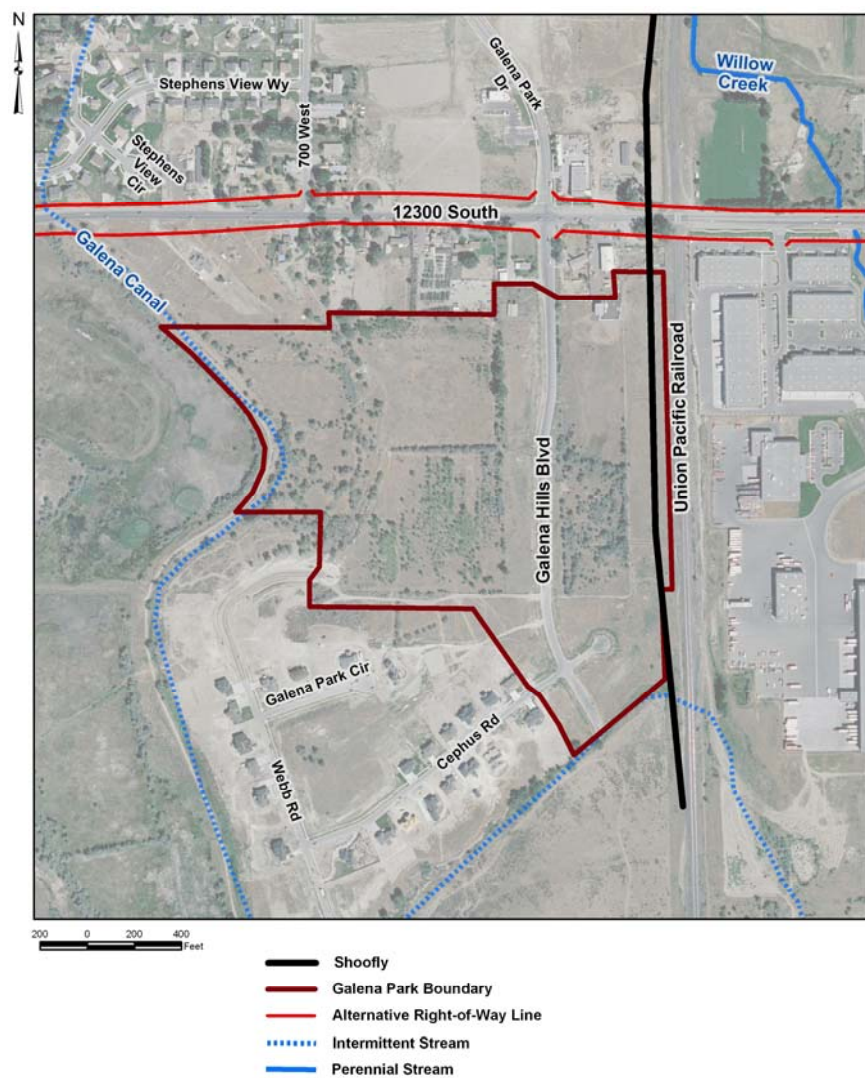


Figure 5-8d. Recreational 4(f) Resource Impacts at Galena Park

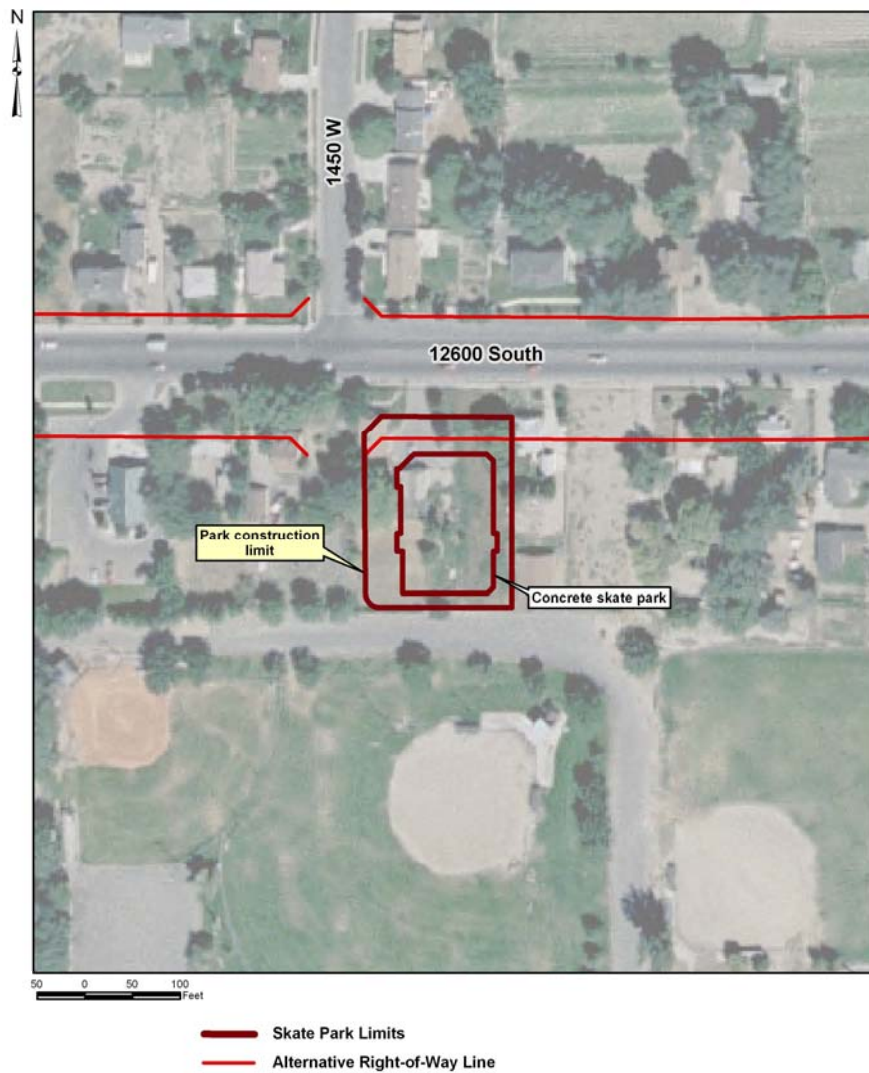


Figure 5-8e. Recreational 4(f) Resource Impacts at Riverton Skate Park

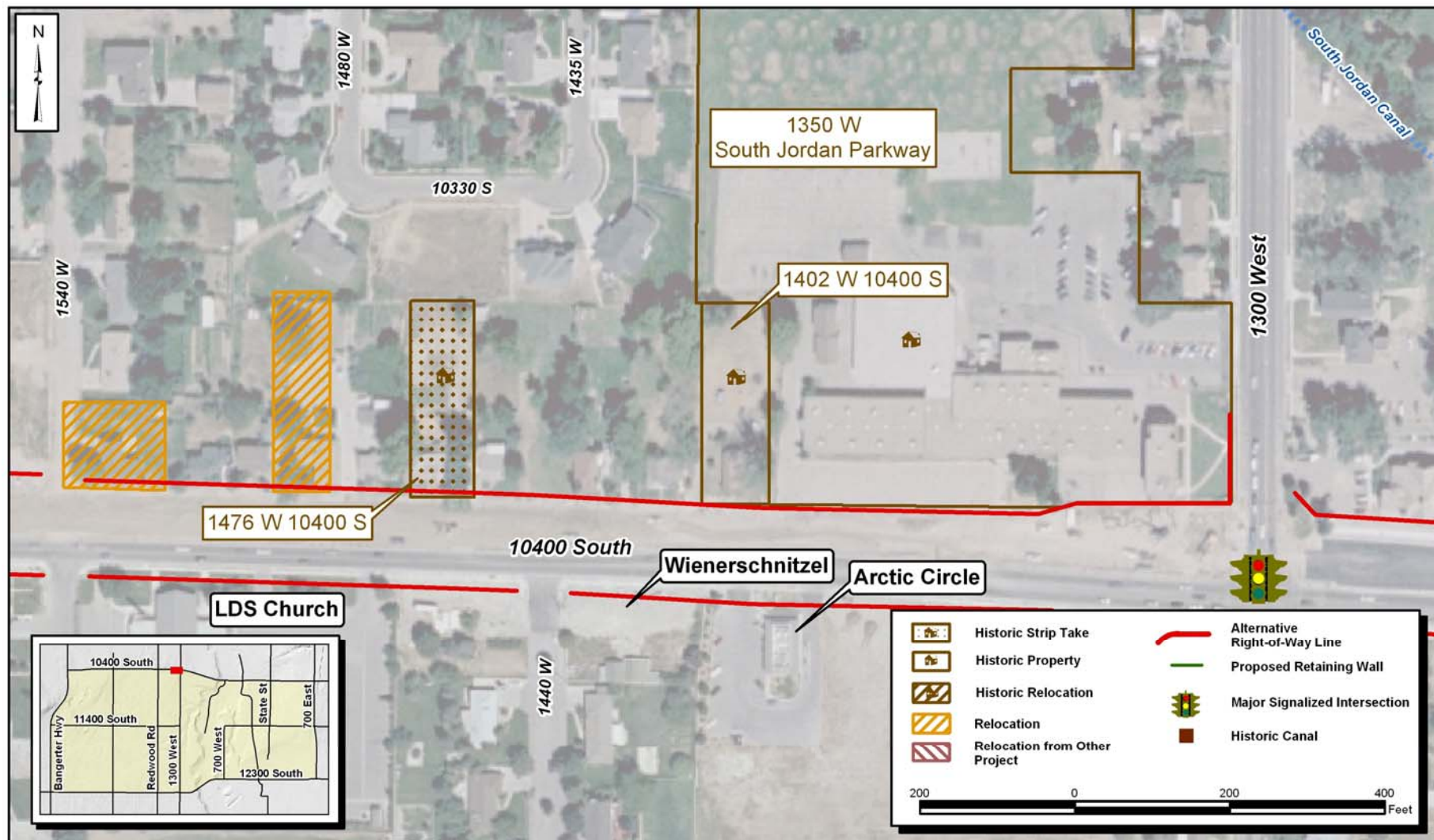


Figure 5-9a. Historic 4(f) Resource Impacts

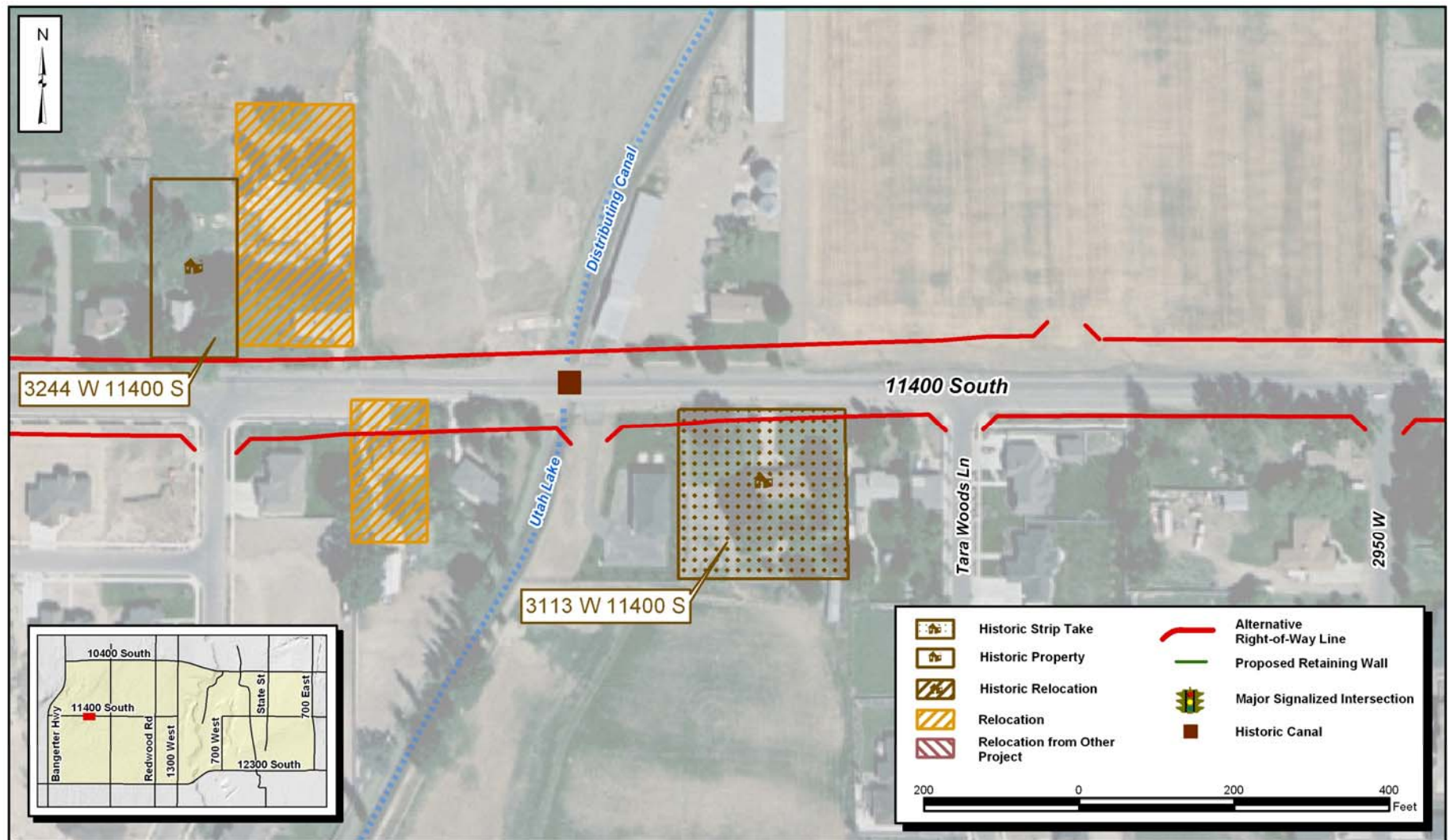


Figure 5-9b. Historic 4(f) Resource Impacts

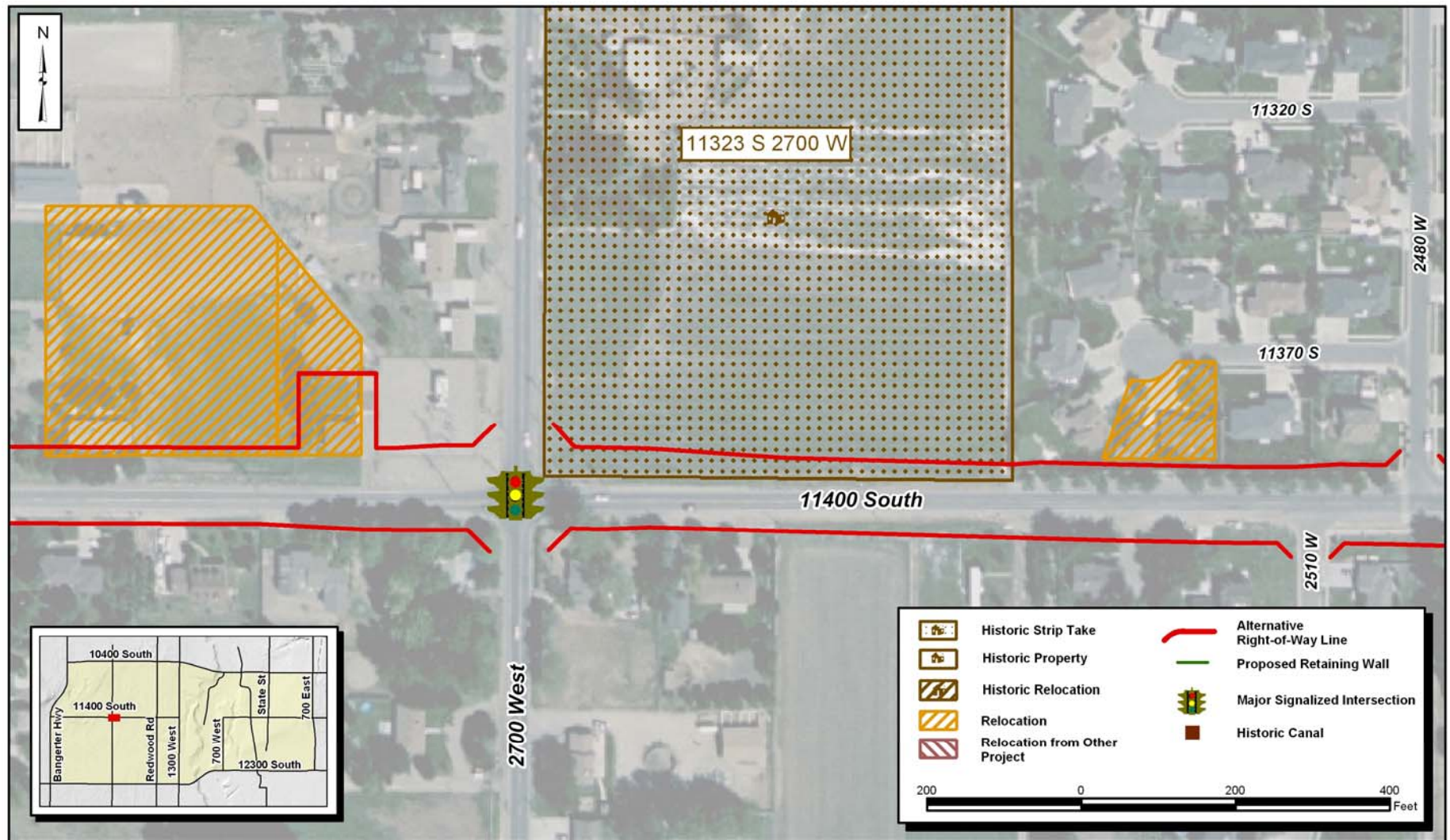


Figure 5-9c. Historic 4(f) Resource Impacts

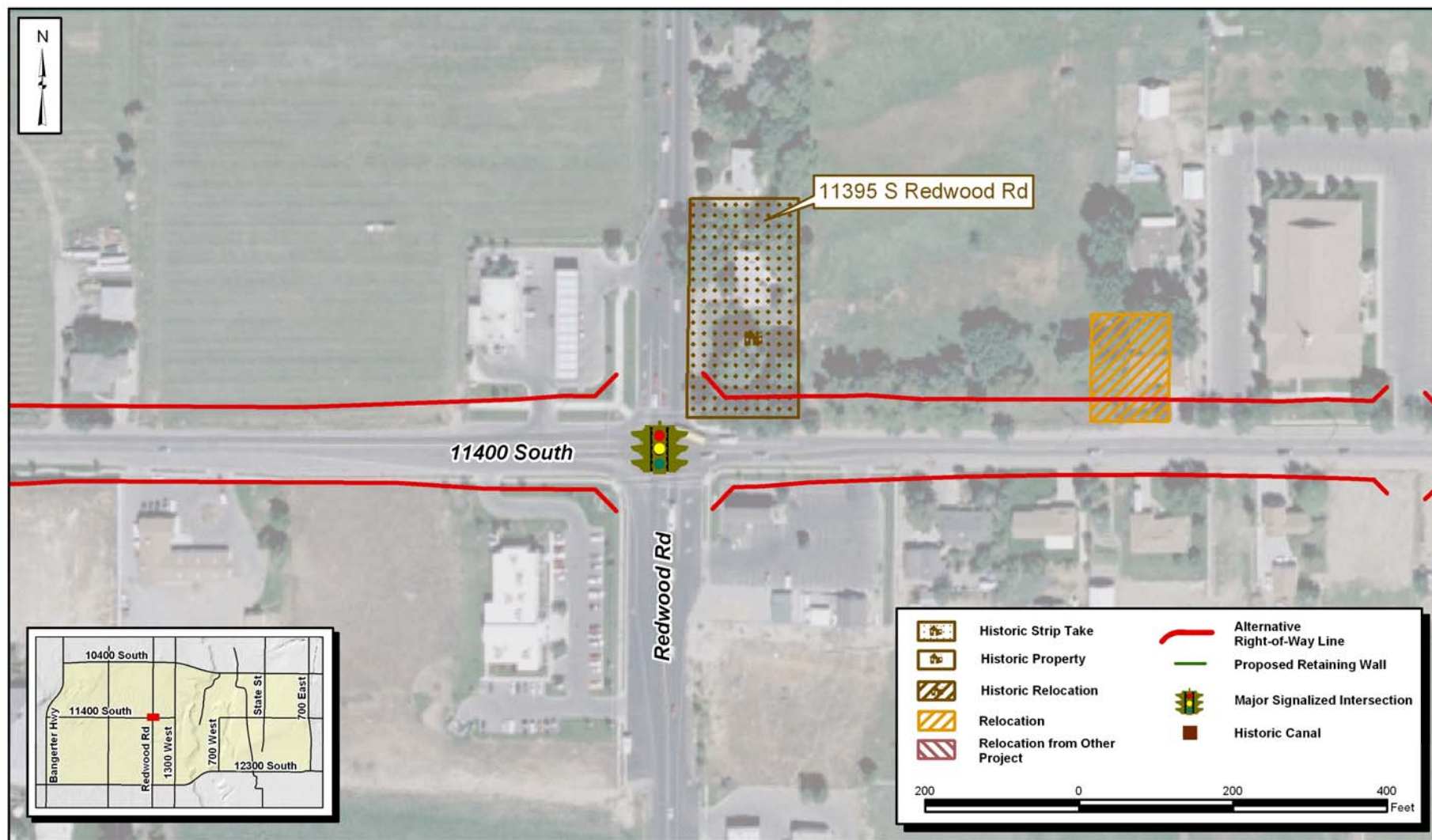


Figure 5-9d. Historic 4(f) resource Impacts

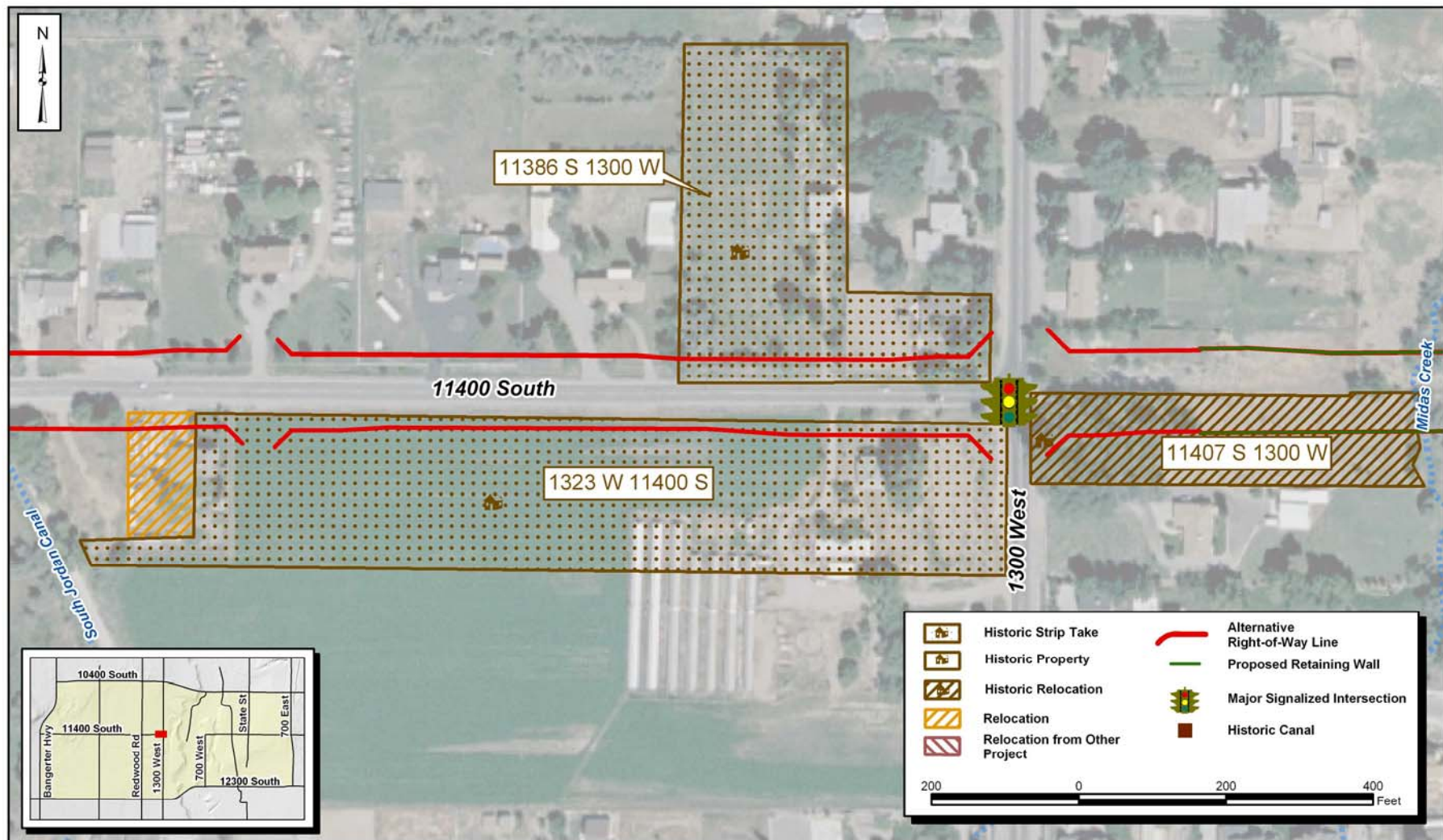


Figure 5-9e. Historic 4(f) Resource Impacts

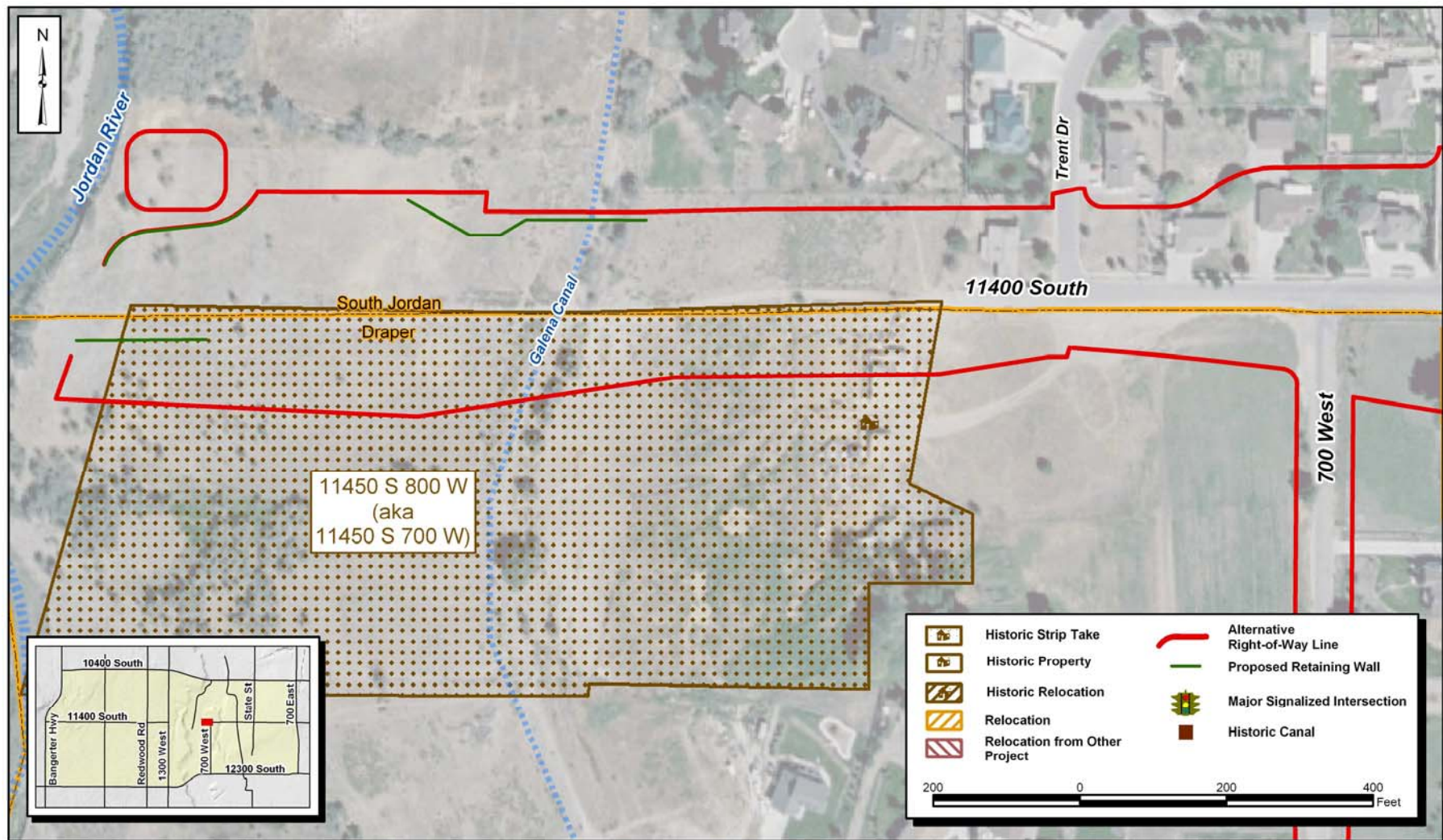


Figure 5-9f. Historic 4(f) Resource Impacts

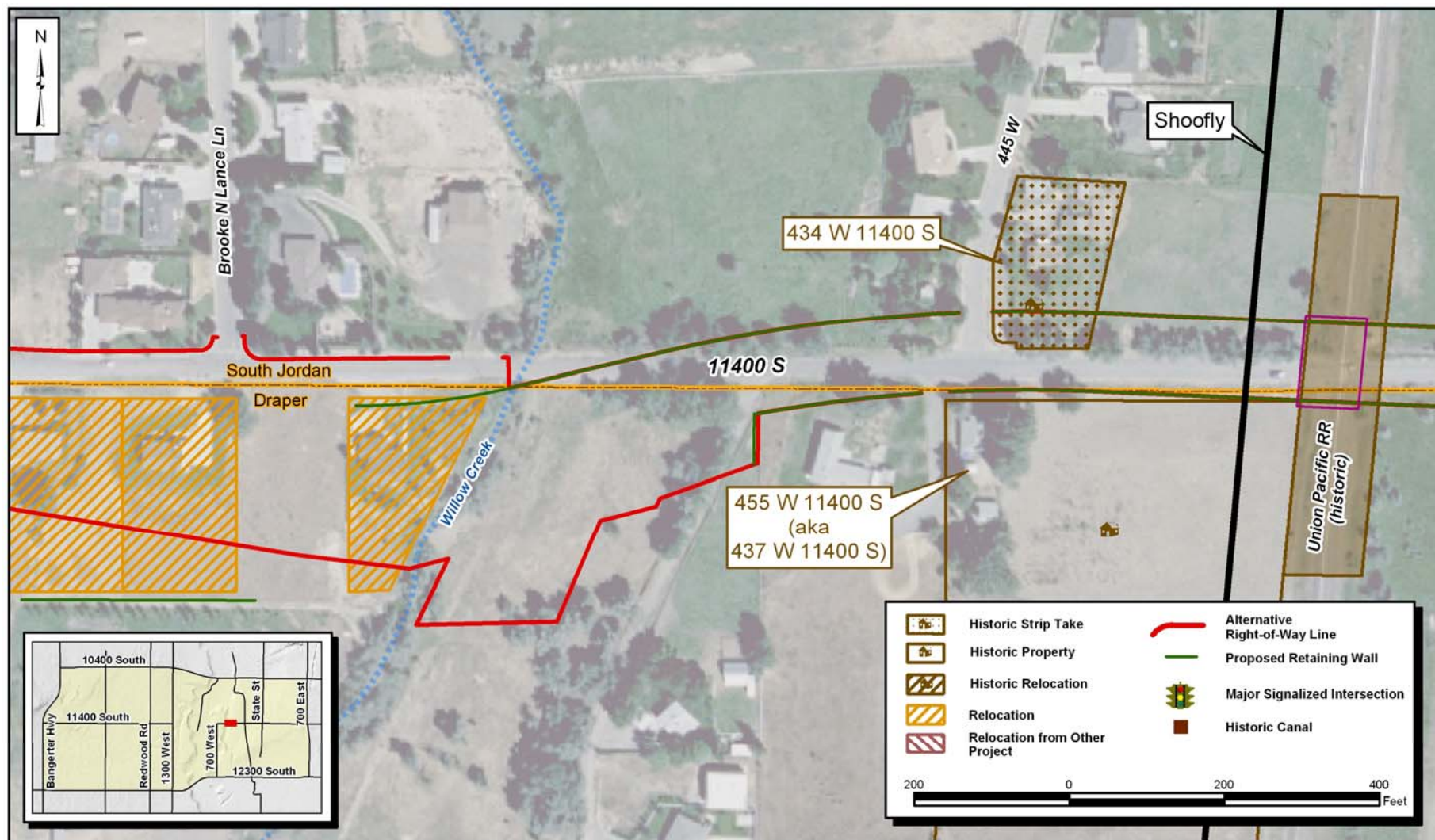


Figure 5-9g. Historic 4(f) Resource Impacts



Figure 5-9h. Historic 4(f) Resource Impacts

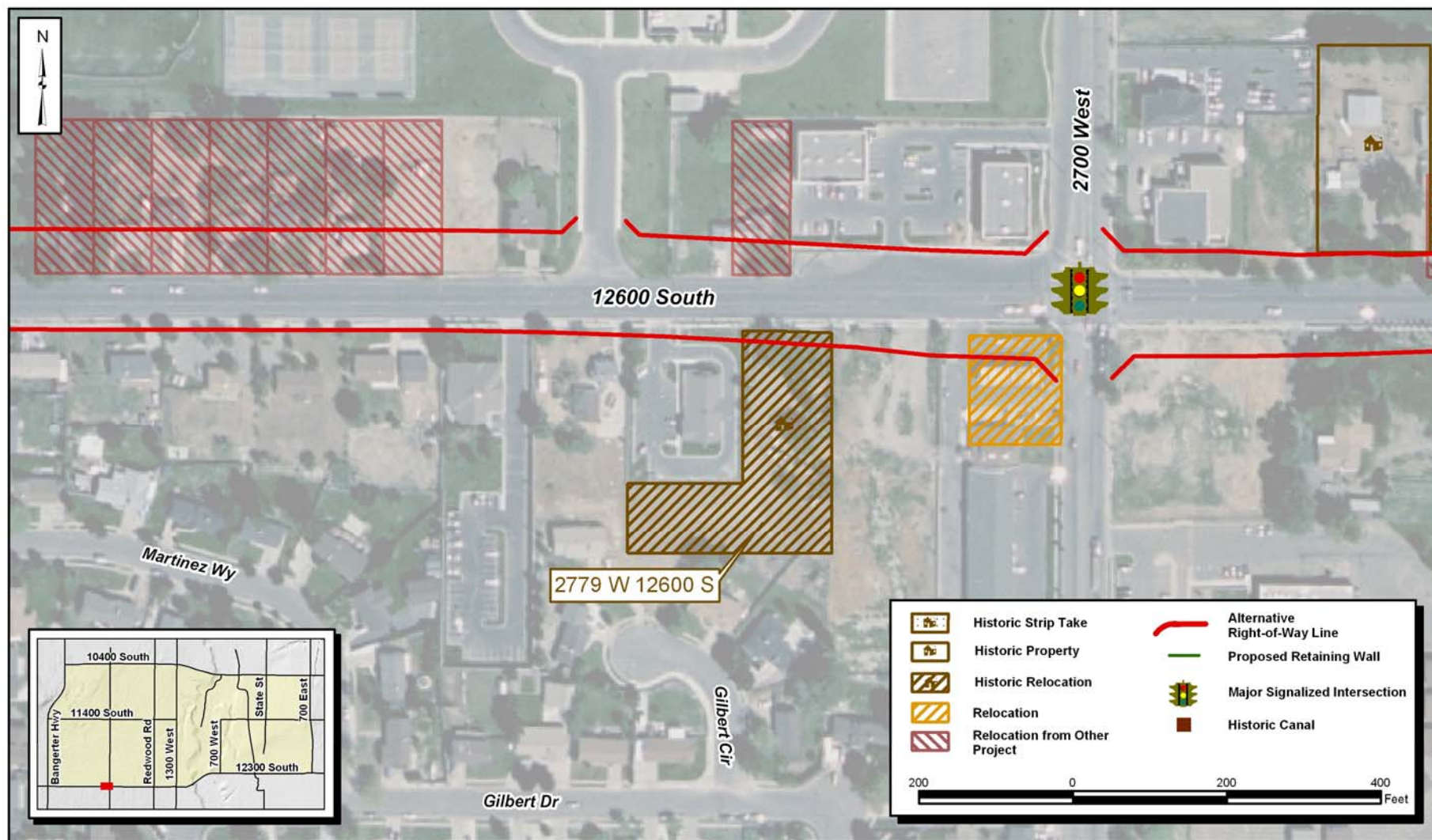


Figure 5-9i. Historic 4(f) Resource Impacts

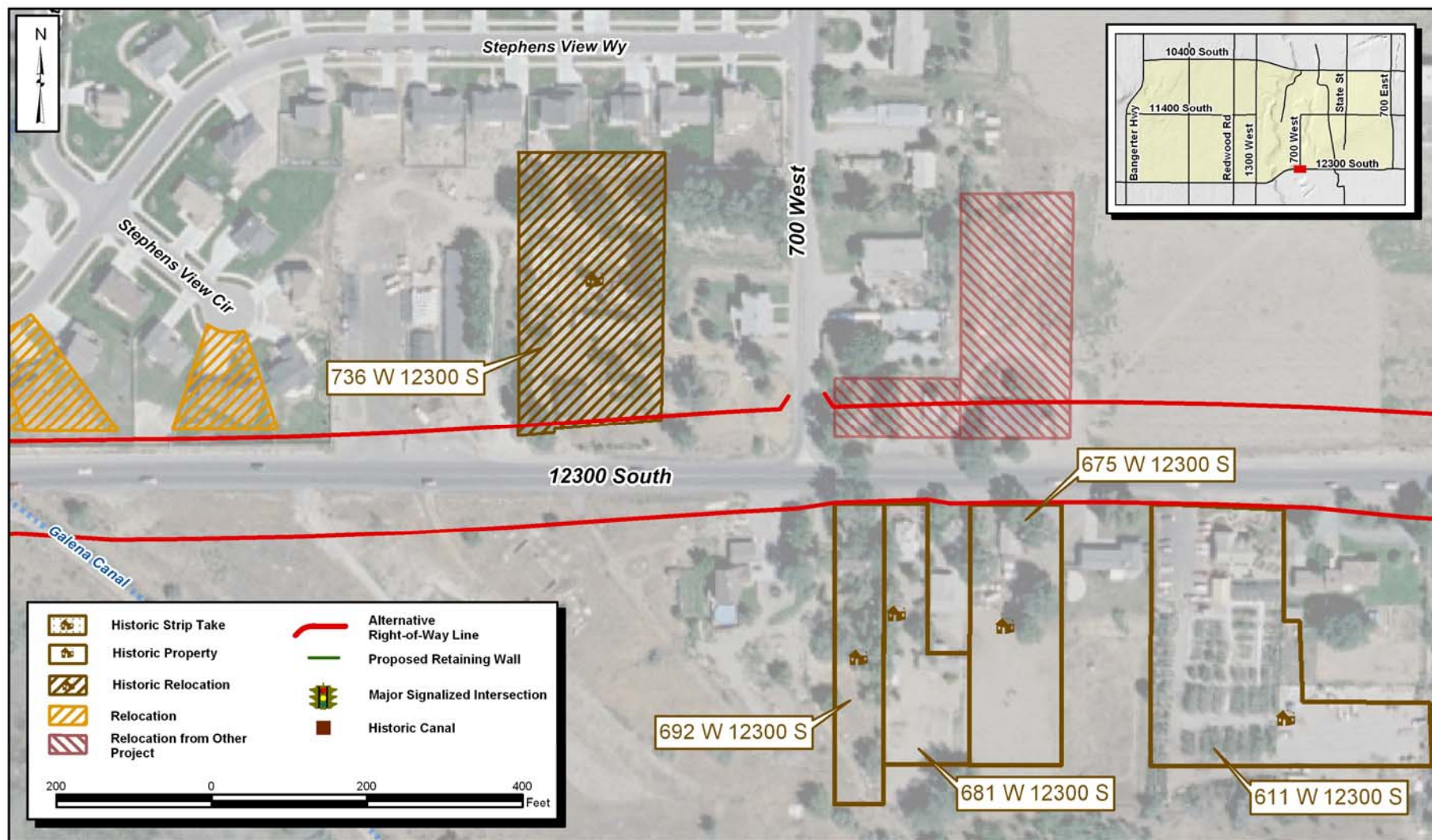


Figure 5-9j. Historic 4(f) Resource Impacts

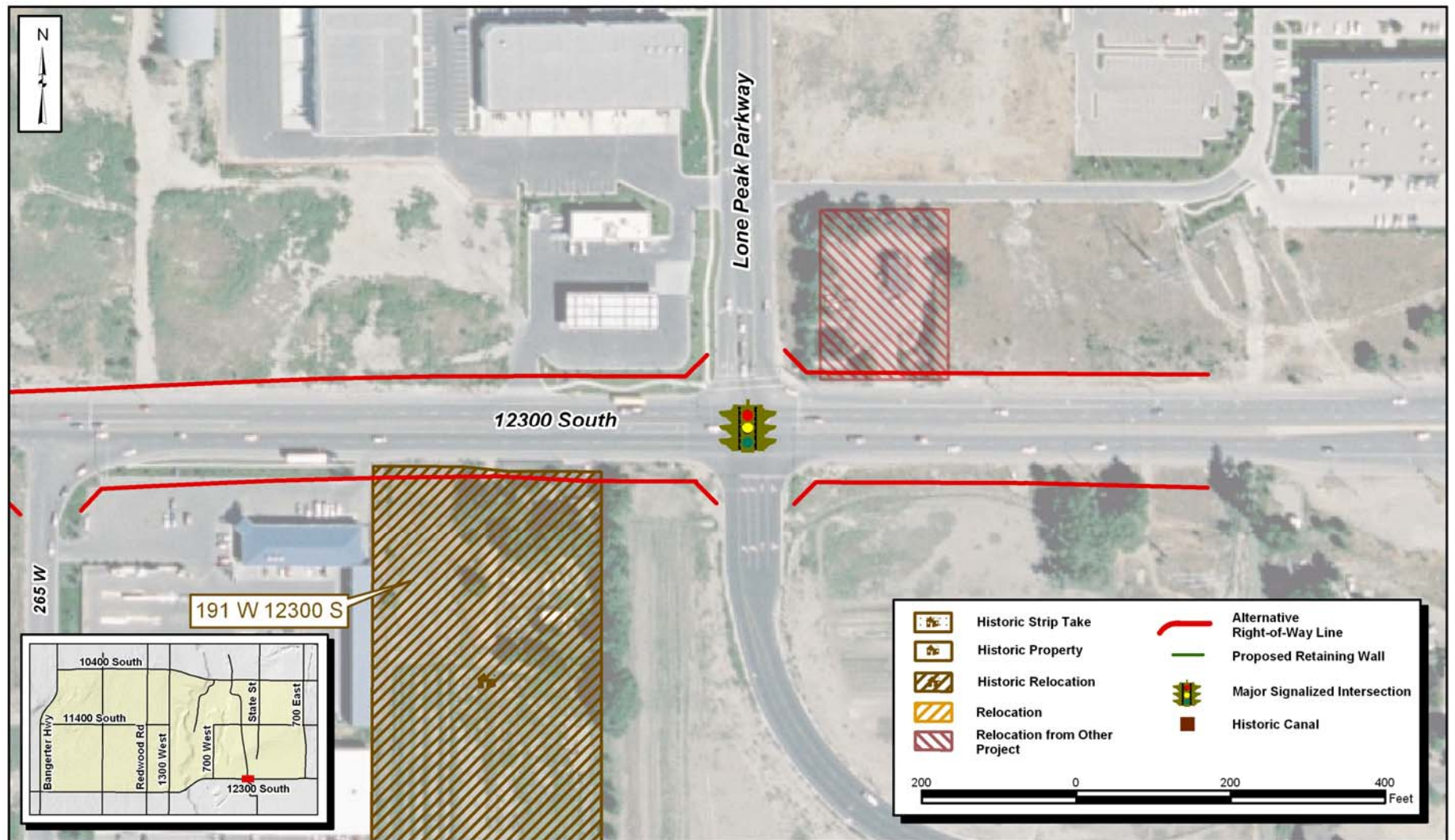


Figure 5-9k. Historic 4(f) Resource Impacts

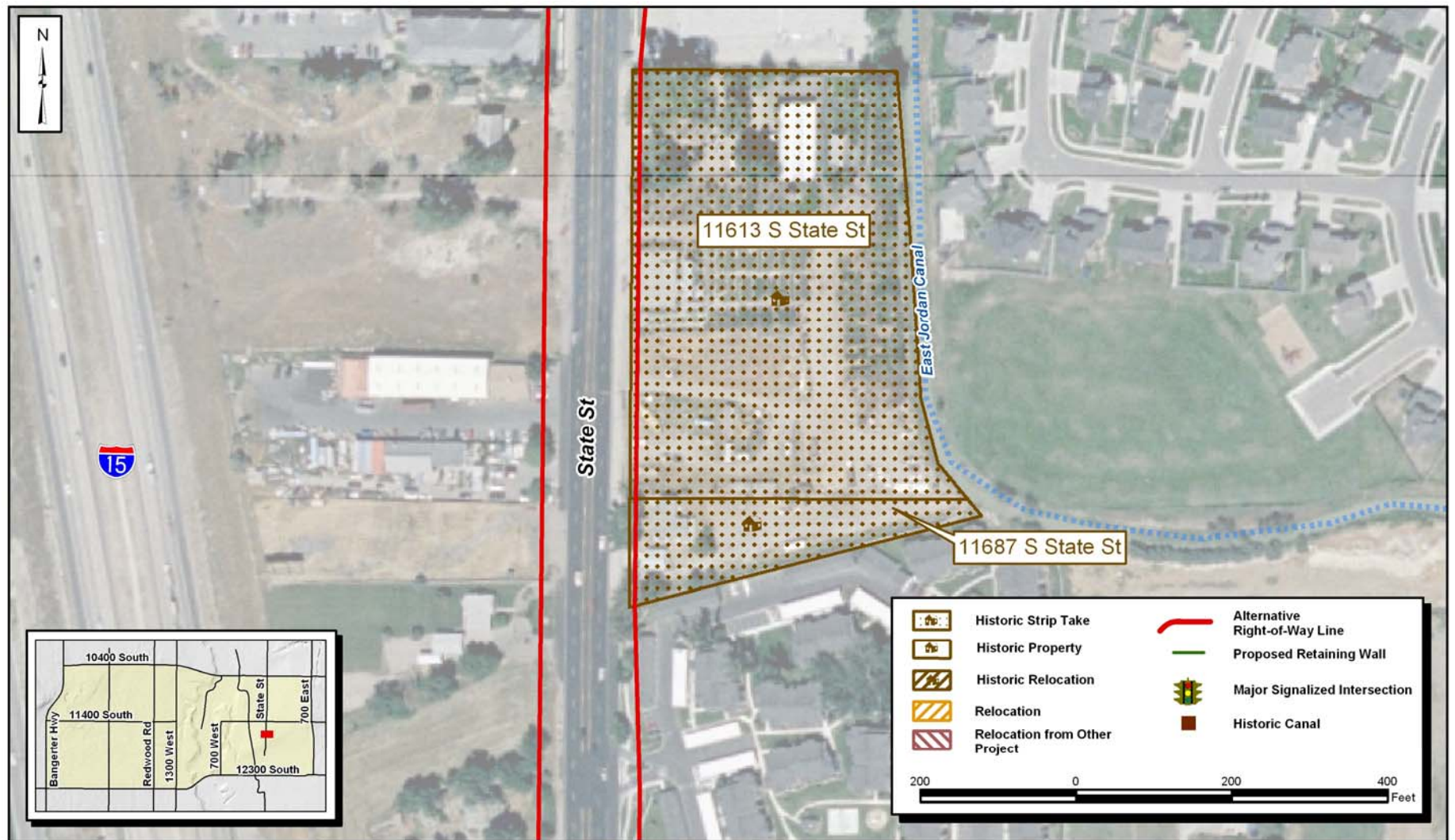


Figure 5-9I. Historic 4(f) Resource Impacts